AMERICAN AGRICULTURIST.

Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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THE

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AND

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CONTENTS OF APRIL NUMBER.

The Traveller, No. 1, Solon Robinson	107
Manu[illegible] Orchards	108
Summer Squash, or Cymling for Stock; Juvenile Vagrancy and Crime—Their Remedy	109
Salt Injurious to Poultry	110
New Mode of Ventilation; Qualities of Lime, and its Comparative Value for Agricultural Purposes	111
To Raise Early York Cabbages; Combined Wire and Picket Fence	112
Patent Wire Railing; Removal of Slaughter Houses from Cities; The Potato Curculio, M. H. Morris	113
Roads	114
Improved Shorthorns—Bate's Stock, A. Stevens	115
Guano vs. Worn-out Land; The Best Rotation of Crops, No. 1, A. Beatty	117
Valuable Breed of Fowls, Samuel Y. Clark; Mr. Robinson's Tour, No. 16	118
American Wine, N. Longworth	119
Pure Dorking Fowls, Eben Wight	120
A Double House for a Corner Lot	121
Guano	122
The Farm of L. M. Stevens, Norwalk, Ct. *	123
Poultry Inquiries; New-York State Agricultural Society; Barley for Soiling	124
Agricultural Geology, No. 2	125
Review of February Number of the Agriculturist, Reviewer	126
Amount of Human Food Raised on an Acre	127
Cultivation of the Sweet Potato, John G. Chambers	128
Medicine for Horses, 8; Successful Experiment in Growing the Osage Orange; To Correspondents; Indian or Grand Millet	129
The Forest Scenery of California, Wm. R. Prince	130
LADIES' DEPARTMENT: What is Dirt? Toasted Oysters; Couve Troncuda; Portuguese Method of Bleaching Linen; New Greenhouse Plant; Embrocation for Wounds	131
Foreign Agricultural News	132
Editors' Table	133
Review of the Markets	134

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sep 1yr*

THE TRAVELLER.—No. 1.

UNDER this head, I propose to give a variety of little items, picked up upon my travels through the United States.

First, then, I left New York, November 8th, 1849, on the "Frankfort," a large, noble steamer, employed in the immense freighting business between New York and Philadelphia, by the railroad from South Amboy, which landed my carriage and horses at that place in two hours, against a heavy wind and tide. How different was the passage over this 30 miles of water 20 years ago. The village here has been built for the accommodation of men engaged upon the railroad. On the hill above, is the summer residence of Mr. John C. Stevens, where he has about 70 acres of land, which he has transformed from barren sands to fruitful fields; an example that might well be followed by a good many others in New Jersey.

American Pottery.—A mile further along the shore, is the pottery of Mr. Cadmus, where every variety of crockery known as "cane-colored ware," is manufactured in a very neat style, from clay found in the immediate vicinity. I noticed among many other handsome articles, some spittoons, ornamented with vines and bunches of grapes, in raised work. These might be called parlor ornaments, provided they were not defiled with tobacco spittle. Designs of agricultural products or implements, would make far more sensible ornaments for such ware, than the miserable, unmeaning daubs often seen upon articles of every-day use in farm houses.

Potter's Clay.—About two miles along the shore from the railroad wharf, is one of the most valuable and longest-worked clay banks in the country, formerly owned by the late Gen. Morgan, and now by his son, Col. Charles Morgan, who also has a well-improved farm of rich soil, part of which was once blowing sand. The fertility of Col. Morgan's place has been brought to its present state by salt-marsh mud, and leached ashes; the latter obtained from Burlington, Vermont, in vessels that came for clay, which is also taken to points along both the Northern, and Erie Canal, and eastward as far as Maine. The price of the clay at the pits, is about ten cents a bushel, delivered on board vessels. Some 30 men, and several ox and mule teams, are constantly employed. The deposit, where the pit is now open, is 30 feet thick, with a superincumbent mass of sand of equal thickness. The earth is removed in railroad cars and tipped into the water, and carried off by the surf. The pits are then dug down some 40 feet square, and the clay hoisted out in a tub by a mule, and carried off in carts and deposited in heaps, from whence it is again taken in ox carts along side of vessels at low water. Many acres have thus been dug over, and an almost inconceivable quantity of clay taken out; and the demand is still increasing.

Leached Ashes, used by Col. Morgan, as a fertiliser, cost 12½ cts. a bushel. Would not guano be cheaper? I think it would. Col. M, has embanked and ditched 150 acres of salt marsh, which he intends to plow and plant next year. Part of his land is so full of shells, from the remains of Indian oystering, as to be unproductive. What application is best for this land? [Cart away the shells from the surface, and spread them on land where shells do not exist; and cart back earth and vegetable matter to the place from which the shells were taken away. By this means, a rich soil will be obtained in both situations.—EDS.] It is sandy and gravelly. I have recommended clay and muck. Here there are some very large, old apple trees; and down by the creek, there is a dwelling house, which carries one's mind back to the days when the Indian hunted wild game in the hills around, and white men little dreamed of locomotives and steamboats, and cast-iron plows. It is upwards of a century old.

Plum Trees, when attacked by the black-wart blight, Col. M. cuts off, and engrafts upon the stumps apricots or peaches, which grow well. There is a very large salt marsh upon the same stream where Col. M. has reclaimed his, that is worth about $4 an acre, which, if reclaimed at a cost of not more, probably, than $25 an acre, would then be worth $100.

Planting Oysters.—This is carried on in this vicinity to a greater extent than planting corn. It is all very well, but did any body ever grow rich at it? [Yes. It is a very profitable business in this vicinity.—EDS.] Oysters are brought here to fatten, from Virginia and Maryland. From South Amboy, along the old turnpike to Spotswood, ten miles, the land is very sandy, and covered with a scanty growth of wood, with few inhabitants.

Use of Lime in Jersey.—The farm of Peter C. Stryker is worthy of notice, as a good illustration of what lime has done in only two years, towards renovating a worn-out tract of sandy land, by which it is made to produce luxuriant clover and very handsome wheat, where the former owner scarcely made hay and straw enough to feed a small stock, but where now more hay than is needed has been made the last year. Of course, manure is not neglected. Mr S. has only 150 acres; yet thinks he has about twice as much as he ought to own, to cultivate profitably.

The Norman Horses.—Mr. Stryker thinks the kind introduced by Mr. Edmund Harris, of this state, are the best farm horses ever brought into the country.

I observe with pleasure, that the people at Spotswood are so far advanced in civilisation as to exclude swine from the privilege, long enjoyed by the family, of running in the streets, and consequently obliging everybody to pay a double portion of the enormous fence tax of the United States. Well, we all learn wisdom by slow degrees.

Visit to James Buckelew.—Nov. 12th, I spent with one of the most remarkable men in New Jersey—one who is more worthy of honor than Gen. Scott, Gen. Taylor, Henry Clay, or Daniel Webster, because, as a farmer, he has done more good than they have, as warriors and politicians. James Buckelew, of Middlesex Co.,

his native place, well known througout the state as one of the most enterprising men of business and wealth, is also one of the best farmers in New Jersey. Although not yet 50 years old, he has made all his wealth by his own industry, and the management of those he has employed to labor, and probably has cleared up and improved, or renovated, more worn-out land than any other man in the state. He owns, where he now lives, about 1,200 acres of land, the greater part of which, when he commenced there, seventeen years ago, was no better than thousands of acres of Jersey sands now are. But now, his immense barns and stacks of hay and grain are standing witnesses of the fertility of his improved soil.

To Improve an Old Pine Field.—After cutting off the timber, he burns it over and plows and then sows 40 bushels of lime and harrows it in, and sows rye, and perhaps clover. After the rye comes off, puts on a dressing of swamp muck in some instances 60 to 80 loads to the acre, of which he has a great quantity, and which produces a most marked effect upon all crops. He has also used the Squonkum, (green-sand,) marl, with the greatest benefit. It is applied at the rate of 100 to 500 bushels to the acre as a top-dressing upon grass or grain. It costs five cents a bushel at Freehold, and has to be hauled 10 or 12 miles, and yet is found to be a profitable application, even at the largest quantity.

Mr. Buckelew, is a very large owner of mules, keeping from 250 to 300 in use, mostly in towing upon the Delaware and Raritan Canal, though most of his farm teams are mules, and of excellent quality. A wagon for hauling off corn is coupled 20 feet apart, with two stout poles upon the axles, upon which the stalks are piled crosswise and ride thus in pretty large loads from the field to the barn.

A new threshing barn, with machine to go by water, has just been built by Mr. B.. 40 by 60 feet, with 34-foot posts, and an underground room of same size, for storing roots and receiving the grain from the threshing machine. Mr. B. also owns several other farms which he carries on by hired labor; and is improving in a high degree, by lime, marl, muck, manures, deep plowing, and draining. The effects that this man has produced not only upon his own land, but by his example upon all the country around, is well worthy of notice.

All the land in this part of the state is comparatively level; that is, there are no hills, and the soil is mostly sandy—just the kind to be benefited most by manure and lime.

Isaac Pullen, nurseyman, thinks lime is injurious to peach trees, but that they are greatly benefited by manure. They always do the best upon new land.

Bonedust for Buckwheat, at the rate of two and a half bushels to the acre, Mr. P. says will beat any other manure he ever saw used, of the same cost. If the season is good for growth of straw, three bushels will make it fall down. With an application of only two and a half bushels upon an acre of land, so very poor that it would not produce four bushels of corn to the acre, he got 40 bushels of buckwheat.

Swamp-Muck Manure.—About four miles from Allentown, I spent a night with Mr. Forman Hendrickson, from whom I learned something of the value of peat or swamp muck. Upon three acres, he put 35 big loads of muck and 50 bushels of unslacked lime, and made 25 bushels of wheat to the acre. Some muck will do very well just as it is dug, and some must have lime mixed with it, or it is of little value. In one experiment, last summer, he saw no difference in his wheat crop between manure, guano, and muck; but upon the part manured with muck, the grass was much the best. His usual course is to dig and pile his muck and mix lime with it. His neighbor, Ezekiel Coombs, who is one of the most successful users of muck in the state, pursues this course: He bought a worn-out farm a few years ago upon credit, and by use of muck, has paid for it, besides erecting good buildings. The crops mentioned in the January number of the Agriculturist, of Mr. John L. Hendrickson, were made upon a farm that had been rented and skinned for fifty years, but by the use of muck, he now gets one and a half to two tons of hay to the acre, and 30 bushels of wheat.

To Drain Land where quicksand is troublesome, can be done by cutting two ditches above the main ditch, not quite deep enough to be affected by the quicksand, so as to inclose a triangular-shaped piece of ground, which serves to take off a portion of the water and relieve the pressure of sand into the main ditch. So says Mr. Thomas Hancock. His practice is to plow in all manure upon wheat ground and harrow in all guano, lime, and ashes. He never uses any top-dressing upon grass except marl.

Rent of Land, at Camden N. J., is worth six dollars an acre, the renter finding his own manure to as great or greater amount, and yet cultivation is found profitable, owing to the convenience of Philadelphia markets, and the facility of reaching New York by railroad. In other parts of the United States, the fee simple forever, of far better land can be had for less money, which will produce more, without manure, and yet is not worth cultivating, for the very simple reason that the cultivator has no market for his surplus produce. Such land can only be made available by increased facilities of transportation. Strange that all farmers do not see the advantages of making good carriage roads, and the interest they have in railroads, plank roads, canals and navigable waters. SOLON ROBINSON.

MANURING ORCHARDS.

WHEN orchards bear profusely, or the soil through which their roots extend, yields crops which are removed from the ground, the trees ought to be supplied with an ample dressing of manure, as often, at least, as once in four or five years. We think, however, a better way is to allow the orchard to take its place in a rotation. Unlike many others, we would not object to occupying the ground with any particular species

of vegetation, but let it be potatoes, corn, wheat or oats, as the soil or the judgment of the owner may dictate. But we do insist, that where an exhausting crop has been taken, ample compensation in manures should be made, for the exhaustion thus occasioned.

It is better, however, as a general rule, that orchards be plowed only in their younger days, before their tops have become much developed; then put the ground in the highest condition of fertility, and lay it down to grass, and invite the extremities of the outspreading, pendant branches to fall as low as the ground, if they prefer. This greatly facilitates and economises harvesting when fruit is hand picked, as all valuable fruit should be, and the grass may be equally well secured under such trees, as when the branches are more elevated. We admire a luxuriant orchard, with its broad, umbrella top, sweeping the ground when loaded with rich, blushing fruit, and no fields can be better occupied than with such a harvest, if the varieties are well chosen, and the trees have received the proper care.

If the orchard is in a meadow, and the grass and apples are annually removed, the leaves will of course follow them, as soon as the autumnal blasts wintry winds sweep over the smooth surface; and thus is the ground robbed of all the vegetable matter to which it has given life through the season. Were the orchard as well protected as the forest, by its numerous low swales, fallen branches, or upturned trunks and roots, and the innumerable standing trees, the decaying leaves and branches, and fallen trunks would restore to the soil all it had abstracted; but in the absence of these, its natural manures, it must receive others or starve.

Ashes are one of the best applications for an orchard; so, also, is swamp muck, or a compost of barnyard manure; charcoal is excellent, as is also lime, and occasionally bone-dust, plaster, and salt, each of which is appropriately applied around the roots. Scraping the trunks when they become unthrifty, mossy or hide-bound, and washing with strong soap suds or wood-ashes ley, and then giving a strong coat of whitewash, are attended with the best effects. These act both as manure and destructive of insects and worms.

SUMMER SQUASH, OR CYMLING, FOR STOCK.

We are not aware that this article has been raised as a field crop, yet we think it may be introduced with decided advantage, for such as require additional food for stock, during the summer months. There are two varieties of vines, the bush and the runners; the former may be planted nearer than the latter. Both are prolific bearers, where the choicest kinds are selected, and the soil, manure, and cultivation are judiciously chosen. They are picked while still green, and given to the stock, either raw, steamed, or boiled. In consequence of this early harvesting, the vines will continue to flower and bear abundantly, through the warm season.

The soil should be similar to that for pumpkins, being a light sandy or alluvial loam, well pulverised and very fertile. In addition to a good soil, the plant pays abundantly for heavy manuring. For this purpose, scarcely anything comes amiss. We have found the droppings from the poultry yard one of the most efficient manures, when mixed with ashes, and immediately buried within and around the hill. Where this is not attainable, guano may be used in connection with other manures. There is no danger of applying too much compost, provided the vines can be irrigated at pleasure, if the season require it. In the absence of the requisite moisture, an excess of manure would be likely to burn the vines.

May we ask that some of our readers, having milch cows or swine, to feed this summer, will plant a half acre or more, under favorable circumstances, and communicate the results of cost and manner of cultivating, the yield, and its value for stock.

JUVENILE VAGRANCY AND CRIME—THEIR REMEDY.

The disclosures recently made of vagrants by the chief of our city police, are quite astounding. He shows an enormous amount of concentrated vice and destitution within our limits; and it has become a leading subject of consideration among the enlightened and philanthropic, how this nuisance shall be most effectually abated.

That a large proportion of this, probably, not less than nineteen twentieths, is of European origin, (the parties being either emigrants from Europe, or their immediate descendants,) does not at all alter the aspect of the case. As a nation, we might with entire propriety, oppose some obstacles to emptying the poor houses, the lazarettos, the Newgates, and Bridewells of foreign countries, upon our shores; but it has hitherto suited the policy of America, to welcome everything, from the highest genius and worth, down to Congo or baboon, without let or hindrance; and we see no signs for the future of qualification nor abatement to this policy. Our destiny seems to be, continual acquisition, and most unfortunately for our city, her monopoly of foreign commerce, guarantees also a monopoly of foreign vagrancy, destitution, and crime.

In the fullness of American aspirations, we look to her commanding agency mainly, as the future renovator of the globe. The intelligence, the enterprise, the activity, the resources, and more than all, the moral tone pervading those portions of the country, where the foregoing qualities are most conspicuous, together with the occupancy of half a continent, and an ocean on either side, to speed our designs to immediate results—these are the groundwork of our hopes in the consummation of this great object. From the shores of the Pacific, we are inevitably destined to meet our co-workers, the other great branch of the Anglo-Saxon race, at New Zealand, New Guinea, Borneo, New Holland, Hindoostan, and at the Cape of Good Hope; while China, and even Tartary and Siberia, will afford abundant scope for Yankee missionaries, Yankee

pedlars, and Yankee adventurers of every grade. Such, at least, will be our destiny, if we mould the foreign elements, now cast forth upon us like a flood, to the present type of Yankee character.

It has been wittily said of England, that she had long since swallowed Ireland, but had never yet *digested* her. We are taking unmeasured potions of a similar quality, and if we have not vigor enough to assimilate the better parts and make them contribute to the growth and strength of our system, and cast the remainder into the draught, to subserve some baser uses, we shall soon find a deep-seated disease, a moral poison, creeping through our frame, paralysing every function of the body politic, and at last consigning our national fabric to a premature and dishonored grave.

But we have full confidence in our ability to regenerate the world, whether we are to carry forth the germ of intelligence and true civil and religious liberty, and transplant them for future development and growth abroad, or whether we are to envelope the stagnant mass thrown upon us, and impregnate it with our own leaven. We have the ability—have we the disposition? In this last great undertaking—we will not say, desperate enterprise—New York has the honor to lead the forlorn hope. What then is the remedy for the mass of vagrancy and crime congregated from every country and clime, and festering in our midst?

We have penitentiaries, jails, work houses, juvenile places of refuge, and police stations. Let all these remain as they now are. They are valuable means of repression at least, and in many instances, of reformation; and for numbers of the older, and more incorrigible subjects, they are indispensable. But we require to superadd to all these, some general and expansive plan, or system, something sufficiently large to embrace all who need its corrective influence, or its benign and salutary aid.

Our plan, then, is simple as nature, and almost as untaught as the forest or fields. Give us only the earth—a sufficiency of our good old mother earth, with just enough of plain, substantial buildings to afford required shelter for inmates, animals, tools, and harvests, and add to these the means of instruction—in brief, let us have a few farms, with common district and Sunday schools attached, each under the guidance of two or three competent, judicious male and female managers, to impart the proper religious, intellectual, and physical education, and we have ample provision for the reformation, education, and support of all the vagrants, paupers, juvenile delinquents, and petit-larceny adults, now infesting the city and its suburbs. Money enough would be required to purchase and prepare the farms and buildings; and an annual amount for salaries of managers, and perhaps the supplies of clothing, &c. Yet we are inclined to believe that in a judicious location, judicious management would nearly cover every current expense.

The name of such institutions is not unimportant. No *house of refuge, reform school,* or similar designations should invest the graduate with a perpetual badge of implied infamy and disgrace. Let them receive the softer names, of the home of the friendless, the orphan's farm, or some other endearing appellation, and let them be homes, not only for the really fatherless, but for all such as inherit an orphan's woe, who are not adequately supplied by a parent's care. Here they may remain till they have reached their majority, learning not only the most proper management of the farm, but such auxiliary arts as those of carpenters and joiners, blacksmiths, tailors, and shoemakers, as their respective tastes might dictate. With suitable rewards in money, for overwork, by the time they were of age, the industrious might accumulate quite a little capital to commence life with, enough to buy them a few acres of government land, and a few tools to work it; or they would at least be fitted to earn an honest and respectable living, at wages in the country, away from the temptations and vices of the city.

Similar institutions, so modified as to suit their different requirements, might be arranged for adults. In all, the tillage of the earth should be the primary occupation. Let them be far removed from the haunts and associations of the city, and let no walls nor bonds constrain their stay except those of a realising, unmistakable sense of increased comfort, health, and respectability beyond what they had abandoned. If a pupil or a pensioner absconded from the premises, let him go till vagrancy or crime renders him again a candidate for admission; and if such results prove troublesome, let a work house with stone walls and iron doors, become the future receptacle of the unmanageable.

The machinery in all this arrangement would be of the simplest kind. One, two, or three hundred acres of land in every farm, and economical buildings, with implements and furniture for each, would be all the permanent capital required. If the number of applicants increased, increase the land, and hire a few more managers; if it diminished temporarily, lease a part of the ground or work it on shares; or if they were permanently lessened, sell it and dismiss the agents.

While we know of nothing more simple, we know nothing more likely to be efficacious than the above, and we believe it could be at once introduced with entire success. Good managers would be the principal requirement, after the requisite funds; and the last would simply be a division of immoderate appropriations in the city, to moderate ones for securing the same objects in the country. We believe Mr. Coleman and others, have given the details of something of this kind, in France. We have not read these details, and know of nothing similar in this country. If properly undertaken, it cannot fail of success—Who shall have the honor of demonstrating it?

SALT INJURIOUS TO POULTRY.—Do not give poultry salt, nor salt food. It is poisonous to them,

NEW MODE OF VENTILATION.

THE discovery, in England, of a new principle of ventilation, the truth of which seems established beyond question, will furnish an important desideratum in greenhouse management.

It has been ascertained that air, like water, can be made to circulate through a syphon, but inversely with the latter fluid. That, whereas, water will enter a syphon by the shorter arm, and discharge itself by the longer, air on the contrary, will always enter by the longer arm and discharge itself by the shorter. Thus, if a stove-pipe elbow be inserted in the chimney, with one of its orifices facing the ceiling, a syphon will be formed of which the chimney will be the longer arm. The air will rush into the shorter arm of the stove pipe, and discharge itself by the longer arm of the chimney, without the necessity of a fire in the chimney, to cause a draught, which is often required where there is simply a hole in the chimney for ventilation.

One great advantage of this principle, as we understand it, is, that there is no inward current of cold air from the outside—that the syphon can only work in one direction. Thus, when there is no chimney, two stove-pipe elbows united can be inserted in a sash pane, with the shorter elbow in the room. The current of air will set strongly from the room, and a person may sit immediately under the pipe without danger from the descent of the cold air upon him, which always takes place when a sash is lowered.

This principle is of no slight importance in its application to greenhouses. Every gardener knows the importance of getting rid of the bad air in his houses, and also knows the difficulty of doing so without having his plants *cut*, to use a technical term, by the cold air rushing in upon them. Now this discovery remedies the difficulty at once. All he requires, is a sufficient number of these stove-pipe elbows introduced, either into the back wall or roof, with means of closing them at pleasure, and he can, in the most extreme weather, thoroughly ventilate the house, without the least injury to his plants, from the cold.

Many of the inventions of the present day seem to be less the novel application of old principles, than the discovery of entirely new principles in natural science. Such is the case both with Polmaise heating, and with the present invention, and with the progressive tendencies of the age—still more important results may be anticipated from the exertion of mental inquiry in this direction.

QUALITIES OF LIME, AND ITS COMPARATIVE VALUE FOR AGRICULTURAL PURPOSES.

THE questions are frequently asked, which is most useful for the field, oyster-shell or mineral lime? Is not magnesian lime always injurious? Is lime or marl the best fertiliser? Numerous other and somewhat similar inquiries are constantly made by farmers, most of which would be easily resolved by their own minds, did they possess a tolerable knowledge of the leading principles of lime, marl, magnesia, and their application. An entire volume might be appropriately occupied with the consideration of these important fertilisers, but we must content ourselves with the occupancy of a page or two only.

Lime (carbonate of lime) constitutes almost the entire portion of limestone, marble, chalk, oyster shells, and others of marine or fresh water origin; and marls seldom contain less than 20, and frequently as high as 70 or 80 per cent. of carbonate of lime. It is a compound substance, made up of two *proximate* principles, carbonic acid and lime, in the proportions of 46 acid, and 54 lime. Each of the above contain two distinct principles termed *ultimate*, because we do not know that they can be decomposed or separated.

Quicklime is the condition in which lime is left after burning limestone, chalk, or marl, which expels the carbonic acid. It is composed of oxygen (a gas) about 28.6, and calcium, (a metal,) 71.4, in every 100 parts. Carbonic acid is made up of oxygen, about 72. 4, and carbon, 27.6, in every 100 parts. The metal has the same peculiarity when exposed to air, as potassium, the base of potash, when exposed to water. It takes fire and burns with great intensity until saturated with oxygen, when the above proportions are again re-established. So much for these compounds, the knowledge of which will not be unimportant to the thinking agriculturist, in tracing their various changes and application. Nor are other characteristics less so.

If quicklime is exposed to the air, it rapidly absorbs about one third its weight of vapor; or if water is thrown upon it, this instantly combines with the lime, until it reaches the point of saturation. This compound is called the hydrate of lime, and is the condition in which freshly-applied lime exists in the soil, when spread and incorporated with it. After a time, however, it gradually combines with carbonic acid, forming an imperfect carbonate; and it is the alternate absorption of carbonic acid and other gases, and their relinquishment to the demands of growing vegetation, which, in the yet unsolved mysteries of agricultural chemistry, is deemed one of the most beneficial results of the action of lime.

Lime is a direct food to plants, constituting a part of the ash of all; but it is found in much greater proportions in some than in others. 1,000 lbs. of dry pea straw, sainfoin, red and white clover, each contain from 20 to 30 lbs. of lime, while lucern has nearly 50 lbs. Every other cultivated plant requires a considerable quantity of lime to mature and perfect it. But in addition to this, and its aid in bringing the gases (the organic portions) to vegetables, it greatly facilitates and disposes those chemical changes in the inorganic or earthy parts of soil, which are so essential to furnishing the plants with all they may require.

Lime serves the further purpose of altering and improving the mechanical texture of soils. Its greater density and weight induce its settling

through the adhesive masses of clay soil, thereby opening them to the free admission of air and moisture. Where these lands have been underdrained, and the subsoil plow has been used, the application of lime is invaluable. The addition of moderate quantities of manure on fields thus prepared, insures prolonged effects. When applied to light and sandy soils, with the addition of vegetable manures, lime compacts and renders them more adhesive. The manures, roots of grasses, &c., are thus combined in a fine mould on the surface, forming a proper conductor and radiator of heat, an absorbent of moisture, and the most appropriate bed for the roots of plants. Lime seems to exert a further, and most improving effect in both clay and sandy soils by inducing those chemical combinations in their constituents, which tend materially to correct their inherent defects. By rendering clays more porous and friable, and sands more adhesive, their mechanical texture is made to approximate as nearly as possible, towards the perfection of each. It is used with great effect on peaty soils, as it hastens the decomposition of the vegetable matter, and diminishes its porosity and sponge-like texture, thereby rendering it less absorbent of water in excess, which is one of its greatest faults. For such soils, it ought always to be applied in its caustic condition, as quicklime.

Lime acts favorably for vegetation, by correcting the acidity of the soil. It not only combines with and neutralises most of the acids found in soils, or that find their way in them from springs, but it also decomposes and renders available for the wants of plants many substances which in their natural condition are really noxious to them.

Lime decomposes the inert vegetable substances in the soil, and converts them into an immediate and appropriate food for the crop. It is in consequence of this favorable action and the large increase of the crop thereby secured, that the vegetable manures, and so much of the mineral element, as are required by plants, are speedily abstracted. The consequence is, that deterioration of the soil inevitably follows, unless other manures are added. The lime simply enables the soil to yield in a few years, what would otherwise require a greater number. But these augmented crops furnish the means of perpetual and increasing fertility, even if a part only of the excess beyond the ordinary yield, is appropriated for this purpose.

It is essential to the favorable action of lime, that the soil contains a full supply of vegetable matter; and when the lime has been applied in excess, or it ceases to act, more vegetable matter must be added. The effect of lime is not perceptible in the soil the first season it is applied, and its full influence is seen only after the second or third. Its effect is greatest when kept near the surface.

To Raise Early York Cabbage.—Plant the seed, in hills, in October, and before the ground freezes turn a furrow up to the plants each side and then cover them with a hand hoe and uncover in the same way in the spring.

COMBINED WIRE AND PICKET FENCE.

This fence is the invention of Mr. Lucius Leavenworth, of Trumansburgh, Tompkins Co., N. Y., for which Letters Patent were issued last October. The wire can be formed so as to put the pickets up in sections of any required length. It is drawn sufficiently tight at each corner of the field to strengthen the fence and fasten the pickets so that a brace is only necessary at the first and last posts.

The remainder of the posts, if wood, can be set in sills; if iron, in flat stone. The hooks, H, H, pass through the posts to allow the wires to be drawn. The screw on the opposite side of the posts will draw the end of the hook to the post which secures the wire. The wires are first secured on the post C, by screws and bolts, so that all the parts are of simple construction. It can be taken down, removed and put up again with very little trouble, as it weighs only about thirty-five pounds to a rod.

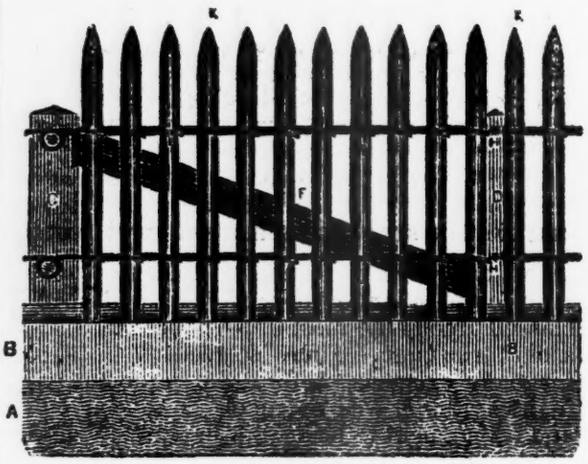


Fig. 36.

It appears to be well adapted for farmers on the western prairies, and in all countries where timber is scarce. With suitable machinery, where timber is plentiful, it is calculated that pickets can be manufactured for from thirty to thirty-five cents per rod, and the wire formed for putting it up, will cost from twenty to twenty-five cents.

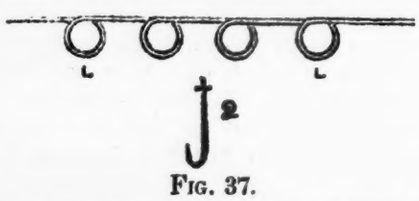


Fig. 37.

Fig. 36 is a front, and fig. 37 a sectional view of the improved wire fence. A, is the ground, B, the bottom or bass board, C, D, are the posts, K, K, are the pickets, L, fig. 37, is a wire, H, H, are the binding hooks, one of which is represented by 2. The bottom board is bevelled at the top, and the bottom of each picket has an angular notch cut in it to fit on the upper edge of the board, which gives firmness to the fence, while the board presents a bevelled edge to the weather.

PATENT WIRE RAILING.

Below, we give another pannel of the beautiful wire railing noticed at p. 81 in our March number. It is well suited for guarding low windows, balconies, and the lighter kinds of fence, as well as ornamental gates. It is strong, durable, and may be painted any color that may be desired.

This article, we repeat, may be advantageously introduced in all situations where wood and cast iron are used for railing, grating, &c., at less than half the cost of the latter.

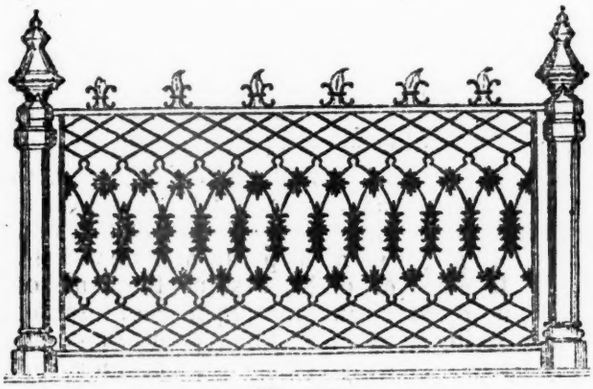


Fig. 38.

REMOVAL OF SLAUGHTER HOUSES FROM CITIES.

The existence of slaughter houses within or even in the neighborhood of cities will soon be classed among the most intolerable nuisances of a barbarous age. There seemed to be a plea for their existence before the period of good highways, as it was so much more convenient and economical to bring the carcass to market on the hoof, rather than in vehicles over a rude, half-made road. But all apology for their continuance, since the era of railroads, has been utterly extinguished.

We stated in the preceding volume, some of the reasons for the removal of slaughter houses from our midst, since which, there has been a strong effort among our citizens to oust them, but simply from a present dense population, to another location on this island that within a few years will be equally occupied. We trust there will be no change of this kind; we hope our citizens' noses will be kept to the present slaughter yards till satisfied, and they are willing to part company with them once and forever.

What a beastly practice this is, will be obvious to any one who will take the time to consider it for ten consecutive minutes. The animals are taken from their accustomed haunts; huddled into masses of strange associates; fed with unaccustomed food, and at irregular periods, and driven through oppressive journeys. The result of all this is feverishness and other diseases in the animal—loss of condition, deterioration in quality and quantity of carcass, a long delay and great expense in reaching market. Add to this the largely increased charges for cattle pens, yards, sheds and stables, slaughter houses, &c., in the city, as compared with the same quantity of ground occupied in the country, where land is worth scarcely $50 an acre instead of $200 per front foot, as much of it is here; then reckon the expense of returning hides directly back for tanning, the increased expense of trying out the tallow, cleaning the bones, boiling the glue, removing the offal; and lastly, consider the injury to health, the loathing and disgust to a refined taste from the presence in our midst, the hardening effect on the character of the young, who are often led by curiosity to witness these butcherings; and the frequently sad and often fatal accidents resulting from driving these infuriated animals through a crowded city, and we have reasons to spare for putting these nuisances forever beyond the reach of our citizens.

All these evils will be avoided by having slaughter houses arranged at convenient depôts, along the lines of railroads, where cheap food, ample room, and entire quiet and rest afford every desirable requisite for the health and thrift of the animals, and the best condition of their carcasses when dressed.

When ready for market, the meat might be placed in cool, well-ventilated cars, after sundown, and be in the city by daylight, after passing over 50, 100, or even 200 miles of railroad. We trust some enterprising country people will take hold of this matter in the proper way, if the city butchers longer defer it; and if our citizens and municipal authorities, would aid this enterprise by a proper patronage and just enactments, it would be eminently successful, without a single coercive measure. Such an arrangement, properly carried out, would save to the consumers in this city over a million of dollars annually in the price of their meat alone, and we believe, fully two millions. When shall we have this reform, so much and so long needed?

THE POTATO CURCULIO.

I beg leave to call the attention of the farmers of our country to a few facts, which I trust will not be uninteresting to them, as, on the authority of Dr. T. W. Harris, of Harvard University, they are now presented as new and important. I allude to the hitherto unknown habits of a small beetle, (*Baridius trinotatus*, Say,) which feeds on the inside of the potato stem, causing the plant to blight, and giving the fields the appearance of having been scalded.

In August, 1849, my attention was called to the subject by Mr. Wilkinson, principal of the Mount-Airy Agricultural Institute, who discovered small grubs in the potato vines, on his farm, and naturally feared injurious consequences. On pursuing the subject, I had the gratification of following them through their various transformations, and with the assistance of my friends, have traced their ravages from Mexico to Maine.

The female deposits her eggs on the leaf buds of the potato vine, at the foot stalk of a leaf, from 6 to 18 inches above the ground; they are of a bright-red color—from one to three deposited on a stem, and never more than one on a

bud. When the grubs are first hatched, they are bright-red, but soon change to a pale straw color; they soon penetrate the bud, and eat into the stem, where they feed, their path being always downward. When fully grown, they construct their cocoons of the inside fibre of the vine, forming a cavity, from a foot above the ground, to the termination of the root. When the insects have changed to pupæ, the vines decay at the roots, and the tops appear as if scalded.

They remain from 14 to 20 days in the pupa state, when they cast their skins, and change to a small, dusky, black beetle, a little more than an eighth of an inch in length, having the wing cases bordered by a narrow black band, and three black dots on the upper margin, near the thorax. In many of the fields in this neighborhood, every stem was infested by these insects, causing the premature decay of the vines, and consequently preventing the tubers from growing to their full size, and on passing a knife through the potatoes grown on these sickly vines, a watery spot was always found in the middle, and a streak from this spot to the root on which it grew.

Specimens of the Baridius vestitus, found in this neighborhood, have been sent to Dr. T. W. Harris, of Cambridge, and Mr. T. C. Westwood, of England, who agree in opinion that they cannot be the cause of the scourge so well known as *the potato rot*, as this species is strictly American, "but," says Westwood, "that they are capable of committing great injury on a crop of potatoes, cannot be doubted." If so, is it not the duty of every observer to make known any additional facts that may fall under his observation? For it is only by such efforts that questions of this nature can be relieved from embarrassment.

That the potato rot is an epidemic, sent, like the cholera, by an All-wise Hand, to be withdrawn at his good pleasure, is, I believe generally acknowledged; yet, like the cholera, may it not be checked and restrained by timely care, and the removal of exciting causes, and if these insects be not the origin, may they not be the exciting cause of the rot in many instances; and will not their existence in some fields and not in those adjoining, account for many facts that have puzzled potato growers throughout the broad land?

An additional fact may strengthen this opinion. In the summer of 1849, a large field near Camden, New Jersey, was planted with both early and late potatoes, the interval of time between the plantings, my informant stated, was two weeks, consequently, the early plants were above ground some time before the late ones; all the early plants were attacked by the baridius, and not one found in the late planting; while in a garden, in Germantown, the late planting alone suffered.

Does not the question then naturally present itself, is not the baridius the cause of that kind of rot which many farmers assert is prevented by mowing off the tops of the potato vines?

Germantown, Pa., Jan., 1850. M. H. Morris.

ROADS.

Some people are beginning to find there has been a great waste of horse flesh, from the unnecessary steepness of hills over which they are required to climb in many of our long-travelled roads. This is a knowledge that has come late to portions of this country; but come it has, at last, and thankful are we, both for ourselves and the animals, that it is found to be a matter of dollars and cents to make roads approximating as nearly a level as localities and a reasonable expenditure will admit.

In a drive the past season, of some hundreds of miles, mostly through the oldest-settled portions of the Eastern States, we often observed in some of the most frequented roads, steep ascents that might with little trouble be entirely avoided. A little more circuitous route, on a nearly level road, would enable the team to reach a point at an easy trot, with less fatigue and in half the time, he is tugging at his load, now dragging it up a steep hill, and anon holding it back. The entire cost of the land on some new route and the expense of grading and working a road, would be repaid semi-annually by the economy in time and horse flesh, on portions of many of our thoroughfares.

We find the comparative draught of a horse on level and varying ascents, in Gillespies' work on roads, thus stated: If a horse can draw on a level 1000 lbs.

in a rise of	1	in	100	ft. he can draw only	900
"	1	in	50	" "	810
"	1	in	44	" "	750
"	1	in	40	" "	720
"	1	in	30	" "	640
"	1	in	26	" "	540
"	1	in	24	" "	500
"	1	in	20	" "	400
"	1	in	10	" "	250

"In round numbers, upon a slope of 1 in 44, or 120 feet to the mile, a horse can draw only three quarters as much as he can upon a level; on a slope of 1 in 24, or 220 feet to the mile, he can draw only half as much: and on a slope of 1 in 10, or 528 feet to the mile, only one quarter as much.

"Though a horse, on a level is as strong as five men, yet on a steep hill it is less strong than three; for three men, carrying each 100 lbs., will ascend faster than a horse with 300 lbs.

"There is a popular theory that a gently undulating road is less fatiguing to horses than one which is perfectly level. It is said that the alternations of ascent, descent, and levels call into play different muscles, allowing some to rest while the others are exerted, and thus relieving each in turn.

"Plausible as this speculation appears at first glance, it will be found on examination to be untrue, both mechanically and physiologically; for, considering it in the former point of view, it is apparent that new ascents are formed which offer resistances not compensated by the descents; and in the latter, we find that it is contradicted by the structure of a horse.

"My acquaintance with the muscles by no

means enable me to explain how a horse should be more fatigued by travelling on a road uniformly level, than by travelling over a like space upon one that crosses heights and hollows; but it is demonstrably *a false idea*, that muscles can alternately rest and come in motion in cases of this kind. Much is to be ascribed to prejudice originating with the man, continually in quest of variety, rather than with the horse, who, consulting only his own ease, seems quite unconscious of Hogarth's line of beauty."

IMPROVED SHORTHORNS—BATES' STOCK.

In the August number, 1849, of the Agriculturist, is an article by me, on the shorthorns, which I imported last year, for Mr. Sheafe, Col. Sherwood, and myself. The January number contains strictures by S. P. Chapman, on so much of that article as relates to the bull 3d Duke of Cambridge (5,951). As Mr. Chapman does not understand my views, and therefore mis-states and misconstrues them, I reply to him.

He takes positions, which present questions so numerous, complicated, and extensive, that I must leave them unnoticed, as there is, just now, a propriety in not discussing them; when this condition ends, I shall do so, and will fully consider them. I merely enter my protest to show non-assent, with the intimation to Mr. Chapman that his views shall receive attention and refutation hereafter.

In this notice, I propose to state my meaning in the paragraph, to a portion of which Mr. Chapman objects, and to refute some of his views of breeding. He adroitly seizes on the last sentence of my paragraph, of which it is the deduction. To be clear, I must re-produce the passage entire. Speaking of the 3d Duke of Cambridge, I said:

"I take great pleasure in knowing, that I have brought to this country so superior a bull from the herd of that eminent breeder, Mr. Bates. He is the only bull in America got by Mr. Bates' crack prize bull, Duke of Northumberland, (1,940,) the best bull Mr. Bates ever bred. Mr. Bates has but one more, got by the same bull, now left; and Duke of Northumberland is dead. Mr. Bates repeatedly told me, that 3d Duke of Cambridge was more like his sire than any bull ever got by him. Breeders, desiring the blood of Mr. Bates, can nowhere else in this country, procure it with such high characteristics of style, quality, symmetry, and substance."

Of this, Mr. C. attempts the refutation of the last sentence *only*. I may therefore assume that he admits the rest. He quotes, "breeders desiring the blood of Mr. Bates, can nowhere else, in this country, procure it with such high characteristics of style, quality, symmetry, and substance." This is the text, its disproval the object of his whole article. Never was an unfortunate sentence so misunderstood, nor so perverted by design. By its use, in an article printed in Canada, by Hon. A. Fergusson, I am charged with asserting "that from Mr. Sherwood, (through 3d Duke of Cambridge,) and from him alone, the Duchess blood can be procured, in this country." In letters addressed to others, and shown to me, it is said that this sentence means "that the 3d Duke of Cambridge possesses more of Mr. Bates' Duchess blood than any other bull in America." And I am charged with so saying and designing so to say. Mr. Chapman makes it mean the same thing, but does so by inference or deduction; his words are, "no one will deny that if any one animal from a herd possesses the power of imparting to his produce, 'higher characteristics of style, quality, symmetry, and substance,' than any other animal from the same herd, it must possess more of the choice blood of that particular herd. To question this, is at once doubting the efficacy of blood animals." That is, my position, if it be true, must be true because 3d Duke of Cambridge has more of Mr. Bates' choice blood, (viz. the Duchess blood,) than any other bull in America. This is the meaning Mr. Chapman places on my words. Having done this, he proceeds to prove, by quoting Mr. Bates' opinion in his own words from a printed public letter, "that the choice blood of his herd is the Duchess blood." I never heard that any one ever doubted that such was Mr. Bates' opinion. Mr. C. then gives the pedigree of 3d Duke of Cambridge, (5,941) and Mr. Vail's Duke of Wellington, (3,654,) and, by those pedigrees, shows that Cambridge has one cross, of Duchess blood, and that Wellington has two. The precise quantity which Mr. Chapman gives to each, is ¼ to Cambridge and ⅛ to Wellington, Now all this shows in Mr. Chapman, a total want of knowledge of the laws of breeding, and of pedigrees in general, and in special of the particular pedigrees which he gives of these animals; but, to explain this as to pedigrees would require too much space now. If Mr. Chapman be correct, then it would be true, that a bull got by one of Mr. Bates' Duchess bulls, dam by a Duchess bull, grandam a *poor roadside tack*, would be a better getter, (would impart more "high characteristics of style, quality, symmetry, and substance,") than a bull got by a Duchess bull, out of a pure, full-bred, stylish shorthorn cow, of another approved tribe. Such an absurdity no one, unless it be Mr. Chapman himself, or some one as little skilled as he, would maintain, and perhaps not even he, though he seems to do so. On his rule, if the sires have each the same amount of Duchess blood, they would possess and impart equal "style, quality, symmetry, and substance." Yet, no two full brothers were ever equally good animals, and equally good getters. Duke of Northumberland, (1,940,) and 2d Duke of Northumberland, (3,646,) were full brothers; the first was very superior as an individual, and very superior as a getter; the last far inferior to his brother as an individual, and far inferior as a getter. The 3d and 4th Dukes of Northumberland, (3,647, 3,649,) were full brothers and twins; the 3d Duke Mr. Bates never used, and he was far inferior both as an individual and as a getter to the 4th Duke. The 3d and 4th Dukes had more Duchess blood than their half brother, Duke of Northumberland, (1,940,) and yet were far, very far inferior to Duke of Northumberland, (1,940,) as individuals and as getters.

Oxford premium cow, the dam of Mr. Vail's Wellington, was by Duke of Cleveland, (1,937,) and her half sister, Oxford 2d was by Short Tail, (2,621,) and both out of Matchem cow. Duke of Cleveland and Short Tail had the same precise amount of Duchess blood, and of course Oxford premium cow and Oxford 2d had the same precise amount. Mr. Bates never retained an animal out of Oxford premium cow, which he *could* sell, and always sold them at *low prices* for him; he never used a bull out of her to anything or for any purpose, even to get steers; he never sold any of the produce of Oxford 2d, and in a letter to Mr. Vail, printed in the Agriculturist, he says he would not take 500 guineas, ($2,500,) a-piece for the four he then had, and indeed, would not sell them at any price. Mr. Bates used the full brothers and the sons of Oxford 2d to *all* his herd; and he was right in his choice, for Oxford 2d, her brothers and her produce are all superior to Oxford premium cow and her produce.

Duke of Cleveland, (1,937,) the sire of the dam of Mr. Vail's Duke of Wellington, (3,654,) was a Duchess bull, and was so inferior that Mr Bates, (in The New Farmer's Journal, Aug. 8, 1842,) says of him, "this bull never exceeded in weight *forty* stones of 14 pounds per stone, when above three years old;" that is 560 pounds dead weight, not half the proper weight. Duke of Northumberland, (1,940,) at the same age, weighed live weight, 2,520 pounds; sink one third for live weight, and his dead weight would be 1,680 pounds, just three times the weight of Duke of Cleveland. Could anything as a shorthorn be worse than Mr. Bates shows Duke of Cleveland (1,937,) to have been? Yet he had more Duchess blood than Duke of Northumberland, (1,940,) by one half!

The second best bull as an individual, ever bred by Mr. Bates, was 1st Duke of Cambridge, (3,637,) a distinguished winner, (and full brother of 3d Duke of Cambridge,) an animal for which he was offered more money than any other, except Duke of Northumberland; yet 1st Duke of Cambridge had only a fourth as much Duchess blood as Duke of Cleveland (1,937)! 1st Duke of Cambridge was refused by Mr. Bates to Earl Spencer, at a large price, and when sold to Australia, Mr. Bates said of him, "he is too good to remain in England, out of my own herd." So he was exported, when only 21 months old.

Mr. Bates' Duchess bull, Short Tail, sire of Mr. Vail's Wellington, had more Duchess blood than Belvedere, (1,706,) for Belvedere had none; yet, Short Tail was an inferior-looking animal, deficient in every point, except his brisket and his handling, and was at best only a moderate getter, while Belvedere was magnificent as an animal, and the best getter that Mr. Bates ever used, and the sire of the best animals he ever bred. Mr. Renick, the agent of the Ohio Cattle Company, to England, to purchase for them, said of Belvedere, "that he was the best and finest bull he ever saw in England or America." The best cow I saw in Mr. Bates' herd, was a Duchess, and was *not got* by a *Duchess* bull, but was by Belvedere, (1,706,); the poorest of the whole herd was a Duchess, and *was got* by a *Duchess* bull; the only *other* Duchess, *got* by a *Duchess* bull, was a very superior cow, and the second best I saw in the herd. These last two cows were *equal* in Duchess blood, and yet their produce was like themselves, from the one superior, and from the other inferior.

Having shown Mr. C. in error, and proved that my position *may be true*, and *not* in consequence of the reasons he assigns, let me state what my words, quoted by Mr. Chapman, were intended to mean, only do mean, and can only be made to mean, by any fair construction. I mean, that Cambridge will impart Mr. Bates' blood in some degree more or less; that in himself he is the bull having the most "style, quality, symmetry, and substance," of all that have ever come to America from Mr. Bates' herd; that if breeders desire Mr. Bates' blood, they can, in Cambridge's produce, obtain it, and with it, more "style, quality, symmetry, and substance," than in the produce of any other bull from Mr. Bates' herd in America, and through the channel of a resembling and superior son of Mr. Bates' best bull. Mr. Chapman tacitly admits my positions when construed as I have here set them forth. But he makes another issue. I admit that Mr. Vail's Wellington, has more Duchess blood than Cambridge. I never thought, never said, he had not, and never wrote nor spoke a sentence that would directly nor indirectly indicate such a thing, and but from misconception, or design, I never should have been charged directly, nor by inference, with the assertion that from "Mr. Sherwood, and *from him alone*, the Duchess blood can be procured," in this country; nor with this, viz: "that Cambridge has more Duchess blood than any bull of Mr. Bates' breeding, in America."

Mr. Chapman institutes a comparison between Mr. Vail's animals, and Cambridge, in point of Duchess blood, giving pedigrees. I could investigate those pedigrees, and will do so hereafter. He wisely makes no comparison between these animals in their physical character. I could, but will not now, though I may hereafter. I will merely say that excellence in the physical animal, consists of "style, quality, symmetry and substance;" and excellence in blood, consists in having good blood, unmixed with bad blood; and it is necessary that animals should have their descent not only from pure blood, but from animals which have physical excellence. "Like produces like."

I know Mr. Bates' herd; and I say that having cattle of another tribe, the only animals I would use for a cross on mine, are those of the Duchess tribe, if I could get that cross properly descended in blood and from ancestors with physical excellence. I am not to be instructed in the excellence of Mr. Bates' Duchess tribe by those who never saw a single animal of it.

When I shall not be charged, as I have been with views and purposes I have never entertained, I shall return to Mr. Chapman's article, and will further consider it.

March., 1850. A. STEVENS.

GUANO Vs. WORN-OUT LAND.

In the spring of 1848, I made an experiment with guano on worn-out land, and the result induced me to try it again the following year on a larger scale. So, last spring, I broke up about 25 acres, most of which had not been plowed for nine years, marked it out both ways, and scattered over the hills about seventy pounds of Peruvian guano per thousand hills, afterwards running the field over with a small covering harrow where the ground was clear. But where the sedge sward was too rough for the harrow, I covered the guano with a hoe. I then dropped the corn in the hills, covered it the usual way, and it came up well. By accident, one row between two others was left without guano, and, without any prejudice or partiality was cultivated in other respects the same as the rest of the field.

Although the land was exceedingly poor, the corn had a healthy and vigorous look all the season, and filled out well, wherever the guano was applied, the fodder being at least four fold more than that of the unmanured row. At harvest, I weighed and measured the corn of 100 hills in the row which had no guano, and of 100 hills in the next row to it, the result of which was as follows:—

100 hills without guano produced 10 lbs. of inferior corn, equal to 4 bushels per acre, valued at $2.00

100 hills with guano produced 41 lbs. of good corn, well filled, equal to 16 bushels, valued at $8.00

Cost of 70 lbs. of guano per acre, at the rate of 70 lbs. per thousand hills, $3.85

Thus it will be seen that the profits attending the guano is $2.15 cents per acre more than on the land where no manure was applied. C.

Kent County, Del., Feb., 1850.

THE BEST ROTATION OF CROPS.—No. 1.

In any system of agriculture, in which a regular rotation of crops is introduced, with a view as well to profit, as to the improvement of the soil, it will be found decidedly disadvantageous to cultivate too great a variety of agricultural products. In proportion as these are increased in number, the farm must be cut up in more subdivisions, and consequently more fencing will be required, and more labor must be expended, in keeping them in repair. Besides, the crops will interfere with each other, and frequently so distract the attention of the proprietor, as to disable him from applying the necessary labor to each distinct crop, in due time, and proper degree. Hence all may suffer, more or less, for the want of the appropriate attention, in due time.

The advantages of a division of labor apply as well to agricultural, as to other pursuits; and every farmer who shall make the experiment, will find that, by directing his efforts to the production of a few only, of the various articles to which our soil is adapted, he will succeed better, both as relates to profit and the improvement of the soil, than if he had embraced a wider range in his agricultural pursuits. Influenced by these considerations and impressed with their great importance, I shall endeavor to carry them out in the following rotation:—

Wheat is a very exhausting crop, and for that reason is not well adapted to a rotation, in which hemp is to be included. Rye is considerably less exhausting than wheat, and when fed off on the ground, will actually improve, instead of exhausting the soil. Indian corn is so necessary, in every system of agriculture, suited to most of the states, that no rotation can, with propriety, be adopted, in which that crop is not included. Corn, according to Judge Buel, is embraced in the second class of exhausting crops. It is less exhausting than either wheat or rye, when those crops are removed from the ground.

In the rotation exhibited in the table below, it will be seen that the hemp crop will be preceded by two crops of corn, two of rye, and two of clover; and consequently, if the rye be fed off on the ground, the hemp crop will follow two moderately-exhausting, two moderately-improving, and two very highly-improving crops. If, therefore, the soil be well adapted to hemp, and not much reduced by bad husbandry, at the commencement of the process, it will be in fine condition for hemp, when that crop succeeds the preceding crops of corn, rye, and clover.

The following table is adapted to a farm of 300 acres, 75 supposed to be woodland, and 225 acres cleared. Four fields of fifty acres each are appropriated to the rotation crops, and the other twenty-five may be considered as appropriated to meadow, hemp seed, garden, orchard, and vegetables. The principles of the rotation may be applied to smaller, or more extensive farms:—

ROTATION OF FOUR FIELDS OF FIFTY ACRES EACH, HEMP BEING ONE.

Year.	No. 1.	No. 2.	No. 3.	No. 4.
1851	Corn.	Clover.	Rye.	Hemp.
1852	Rye.	Corn.	Clover.	do.
1853	Clover.	Rye.	Corn.	do.
1854	Corn.	Clover.	Rye.	do.
1855	Rye.	Corn.	Clover.	do.
1856	Clover.	Rye.	Corn.	do.
1857	Hemp.	Clover.	Rye.	Corn.
1858	do.	Corn.	Clover.	Rye.
1859	do.	Rye.	Corn.	Clover.
1860	do.	Clover.	Rye.	Corn.
1861	do.	Corn.	Clover.	Rye.
1862	do.	Rye.	Corn.	Clover
1863	Corn.	Clover.	Rye.	Hemp.
1864	Rye.	Corn.	Clover.	do.
1865	Clover.	Rye.	Corn.	do.
1866	Corn.	Clover.	Rye.	do.
1867	Rye.	Corn.	Clover.	do.
1868	Clover.	Rye.	Corn.	do.

The foregoing rotation will be easily understood by an inspection of the table. It will be seen that the product of each year, will be one crop each of corn, clover, rye, and hemp. The woodland should be cleared up and set in blue grass. The clover crop may be pastured till the rye is ripe, and then all stock should be removed, and the young clover suffered to grow up and ripen, and should be plowed under late

in the fall, or early in the winter. This will form a fine preparation for the ensuing crop of corn, and such an abundance of seed will be covered under, that the succeeding crop or rye will be sufficiently set with clover, without sowing clover seed the following spring. Thus the expense and labor of sowing this invaluable grass need not be incurred, except at the commencement of the rotation in each field. Preparatory to the sowing of the rye crop, the corn should be well cultivated, and not a weed suffered to ripen, as thereby the soil would be unnecessarily exhausted, and the ground not in so good a state for the succeeding crop of rye, and clover. When it is recollected that vegetables of all kinds, exhaust much more when ripening their seeds than at any previous time, the importance of attending to this recommendation will be evident. The corn should not only be kept clean, but plowed deep, this being very necessary to prepare it for the coming crop of rye and clover, especially the latter, which has a long tap root, and requires a deep permeable soil, as thereby it will be enabled to draw much of its nutriment from the subsoil.

Prospect Hill, Ky., Jan. 1850. A. BEATTY.

VALUABLE BREED OF FOWLS.

UNDERSTANDING that you are going to dish us up with some sketches and samples of poultry, I offer an account of a kind which is common in our neighborhood. Where they came from, I do not recollect; but, considering this of secondary importance, admitting them to be exotics, I will proceed to describe them.

They are known here by the name of "Italy Fowls," and in appearance, differ mainly from others by their large combs, which, in some of the males, are from 1½ to 2 inches broad, double, and covering the entire crown of the head. They are about medium size, of a color varying from mottled-grey to a light-dun. In some males, however, the predominating color is red. The full bloods have rather blue legs and skins, which, in my opinion, is their only fault. But they mix freely with other breeds, and, with little care, they can be had with bright-yellow legs and skins. The texture of their flesh is fine and well-flavored, and they come to perfection earlier than any other kind I have ever had. I have five or six breeds of fowls, but these much outdo the Polands in appearance, and are equal, if not superior, in laying qualities. They also appear to be both hardy and healthy.

I see by footing up my store book from April last to December 1st., that from forty hens in three different locations, yet contiguous, I have sold 2,940 eggs, besides using freely for cooking in my family, &c. Two thirds of the time, the hens were not fed, but unrestrained as to roving, having the use of the barn and range of the farm. I also sold last fall, $7 worth of males for killing, which grieved me to see so many beautiful birds cooped up at once; for had they been scattered among farmers, they would have done an immense deal of good.

SAMUEL Y. CLARK.

Westfield, Essex Co., N. J., Jan., 1850.

MR. ROBINSON'S TOUR.—No. 16.

Georgia Farming.—Augusta is one of the most flourishing towns in the south. It contains 8,000 or 9,000 inhabitants, and is situated at the head of steam navigation on the Savannah River; built upon a broad plain of rich alluvial soil, and is a place of a large trade. Two of the principal streets are about two miles long, and each one 160 feet wide. It is also the terminus of the Georgia Railroad, which already extends into Tennessee. The city is now engaged in a stupendous work nearly completed, by which the best water power in the Union is provided. This is done by tapping the Savannah, seven or eight miles above the city, with a navigable canal, which is brought down just to the edge of the town, and then the water drops from the first to the second level, 13 feet, and then is carried about a mile along a natural ridge, from which it is taken by short cuts, with 13 feet more fall to the third level, that carries the water through another canal into a natural hollow, and back into the river above the city. The work is done at the expense of the city corporation, which will receive a revenue for water rents. The navigation of the canal is made free, as by that thousands of bales of cotton come to Augusta market. There is now in operation one beautiful cotton factory of 9,000 spindles, and another of the same sized building. There are two excellent merchant flouring mills in operation, and a sawmill and some other works, and a large machine shop nearly ready; and there is ample room and water for a hundred or two more. Good materials for brick abound upon the spot, and coal, iron, lime, and granite up the railroad; and then the location being healthy, why should it not become a great manufacturing town? There is also a railroad 136 miles, to Charleston, which makes Augusta within five days of New York.

But the best of all, is the fact that the town has a population equal in point of character to any other, north or south; and is surrounded with some of the best and most enterprising farmers in Georgia. Among others, I may be permitted to mention Messrs. Eve, Delaigle, Coleman, Miller, and Moore. The first is one of the most enterprising and thorough-going sort; as is most apparent in his work as contractor upon the water works and canals; while at the same time, without the assistance of an overseer, he has carried on his large plantation, three miles below town, having made about 20,000 bushels of corn last year, besides a large quantity of other things for sale, with 30 hands, 28 of whom were females. This he has done from a thorough knowledg of the value and *art of making manure.*

The average yield of corn here, one year with another, is about 25 bushels to the acre—oats the same, though he has made 80 bushels. Mr. Delaigle told me that he had frequently made 300 bushels of sweet potatoes to the acre.

His premises are well worth visiting, both by northern and southern farmers. The first would see how a southern farmer, born upon the spot, can make and use manure, and see yards, sta-

bles, cattle sheds, stock, tools, buildings, and farming in its most comprehensive sense, equal to anything of the kind in his own country. The latter would see an example worthy to be followed.

I noticed in the cattle yard, a vast quantity of oak and other leaves, mixed with the manure. This is now being hauled out and dropped in heaps and covered; and in the fore part of April, the corn is planted in checks four feet by six, two stalks in a hill to stand, and each hill has a shovelful of this coarse manure, and a handful of lime, which he makes from oyster shells, "picked up about town."

Mr. D.'s sweet potatoes, of which he raises from 3,000 to 5,000 bushels a-year, are kept in a brick house, of which about five feet are above and five below ground. The potatoes are dug and put away as rapidly as possible, after commencing, and have a layer of fine straw next the walls, and several ventilators through the heap, made of four boards full of holes, nailed together. Over these are trap doors, into the cockloft, which has outside ventilators, to open and shut as required. In this way, with the least possible trouble, he keeps sweet potatoes through the winter and well into summer.

Mr. Eve's plan of manuring is different from Mr. D.'s, as he spreads all broadcast and plows it in; and he prefers to give the lots manured a thorough dressing at once, instead of scattering it over a wide surface. All of these bottom lands would be improved, most undoubtedly, by underdraining. But that never can be done while the owners cultivate so much land. And it is one of the hardest undertakings to convince planters that they would be richer if they did not own half so much. This "swamp land," as it is termed, was once considered inexhaustably fertile, and yet, it is now proved by those gentlemen, as well as others, that no part of their labor pays a more certain profit than manuring.

Upon the subject of using oak leaves for manure, Mr. N. B. Moore, who has had a good deal of experience, says that he considers them about the poorest vegetable substance he has ever tried. He prefers broom straw, or even fine straw, and certainly any kind of weeds, crab grass, corn stalks, or straw of any kind of grain.

All of these bottom lands are liable to overflow, excepting when the water is kept back by dams, or levees, as is the case upon a very great portion of all the river lands of the southern states. They also have the reputation of being unhealthy, and of affording as fine a growth of musquitoes as the greatest lover of that kind of music could desire. Of the latter, I have no doubt. As to health, I believe that draining and liming, and improving cultivation will cure that.

Mr. Moore cultivates his farm principally for hay, to sell in town, but he has learned that no land, not even the Savannah-River Bottom, can be stripped of a crop every year, and yet continue to give, and so he keeps carts constantly gathering up manure in the city, which he puts on the land at the rate of one horse cart load every 20 feet, upon every bed, which are all laid off 20 feet wide. The manure is first picked up about town, with carts and taken to a pile on a vacant lot, and from there is hauled to the farm in two or four horse wagons, and put in a big pile, with a good coat of locomotive cinders, and coal ashes covered over the top, where it is thoroughly rotted before using; for it is composed of all manner of things gathered up in the streets, yards, and stables. As soon as possible after it is hauled on the land, it is plowed in about two or three inches deep in winter, and in the spring, after the weeds have got well under way, he plows them all under, five or six inches deep, and sows millet, oats, peas, barley, clover, grass, &c., and harrows in; thus killing the weeds and allowing the crop to get a fair start. All the produce is sold or used as hay, and also a crop of crab grass. Of the latter, he cut up a crop some years ago from among the corn upon 100 acres, which he sold for $600.

Mr. Moore, it is proper to remark, was not bred a farmer, though now one of the best in the country. That is, he makes as much, if not more to the hand, than any other man in that region; and all because he understands the value of manuring, and following a judicious system of cultivation, instead of the too common skinning one. Besides the profitableness of his farming, his farm is kept in the neatest order of any one in that neighborhood of neat farmers. Altogether, his example is worthy of commendation, and profitable to be noted and followed.

AMERICAN WINE.

I DISCOVER in a late number of the Agriculturist, a notice of my sparkling Catawba wine. Last spring, I received from the province of Champagne, through a French gentleman of your city, a scientific and experienced manufacturer of wines, and while I shall not attempt to imitate any of the sparkling wines in Europe, I shall be able to produce a pure article, having the peculiar flavor of our native grape, and equal in all respects to the best imported. I believe the natural aroma and flavor will be superior. If not, I shall not attempt by artificial means to imitate foreign wines in this particular.

I have been testing the qualities of our native grapes for wine, for more than thirty years. My lease of life is drawing to a close, and I have not many years left to complete the experiment, and must press it. My second wine house, 40 feet by 120, four stories high, with the lower cellar, 23 feet below the surface of the ground, will be completed in the spring.

Last spring, I grafted twenty-four varieties of new kinds of native grapes, the cuttings of which were sent me from various parts of the United States. Many of them bore fruit, and from some of them, I made small samples of wine. A few of them promise well for the table and for wine. The common fox grape can never be of any value whatever. Neither can foreign grapes be cultivated to advantage, in the open ground, even when obtained from a cold region. I have fully tested this.

Cincinnati, Jan., 1850. N. LONGWORTH.

PURE DORKING FOWLS.

In the portrait below, the reader will recognise a true Dorking, a fowl which has received as jealous a care in its breeding at Surrey, England, as suits the pleasure of a *fancier*, who goes for purity of blood. So careful are the inhabitants of Dorking, of retaining these fowls in their own neighborhoods, that it has been with extreme difficulty that they could be obtained at any price.

When I secured my first lot of Dorkings, some ten or twelve years since, through a friend who was making a periodical visit at Dorking, he assured me that it was only after a trial of some two years, that he could obtain them, and then only by allowing a resident to go down to the ship and see them safely off for America, the producers of the stock being fearful that other sections of England might secure the breed. As corroborative of others finding a like difficulty, I extract from the "American Agriculturist," vol. iv., p. 204, the following:—

DORKING FOWLS.—FIG. 39.

"As Dorking fowls are likely to be in vogue now, we think it advisable to caution all those who wish to possess good ones, to be very careful what they buy. Choice birds are extremely difficult to be had, as we found to our cost when in England, and it was only by special favor we procured some at last.

"Capt. Morgan has been upwards of two years endeavoring to obtain this importation, and finally succeeded only through a worthy clergyman, Mr. Courtney, of the town of Dorking, a passenger with him on a recent voyage home from the United States.

"He accompanied them by a note, apologysing for the high price he had to pay, and further saying: 'The chicken breeders of Dorking have adopted a sort of *principle*, that they will send away no birds *alive*, except capons, as they desire to retain them, as much as possible, among themselves, in which, by caponising, they carry on quite a profitable trade, and they can only be had by particular favor.'"

Among the first fowls which were imported for me, most of them were white or cream-colored, and a few speckled. The contour of the white being most pleasing to my eye, I selected that color, or the cream-colored, for my own yard, and handed over to a friend all those which were speckled, or of a greyish tint.

Since the first importation, I have received from the same source, additional supplies from time to time, with the view to avoid an in-and-in breeding of the stocks.

The pair of fowls figured above, will be two years old the coming season, showing a more full development than would those of a less mature age. The weight of the cock is 8½ lbs., that of the hen is fully 6½ lbs. When caponised, this breed has been known to weigh 9 to 12 lbs.

Of this breed, Dickson, in his last work on poultry, (1847,) says: "These fowls, [Dorkings,] which form the principal supply for the London market, are distinguished by having five toes, instead of four, on each foot. Their flesh is extremely white, succulent, and delicate, and they have the advantage of feeding rapidly, and growing to a very large size, when properly managed. Capons and poulardes, though by no means so common in England as in France, are sometimes made of these fowls, which, when castrated, grow to an enormous size, a well-fed capon having been known to weigh 15 lbs.! The feathers of the Dorking fowls are almost always white, and their legs are short, white, and remarkably smooth."

As Mr. Browne has so fully spoken of the good qualities of the Dorking, in his excellent work, the "American Poultry Yard," it would be superfluous in me to add anything further than to say, that after a long experience as a *fancier* in fowls, having nearly every breed

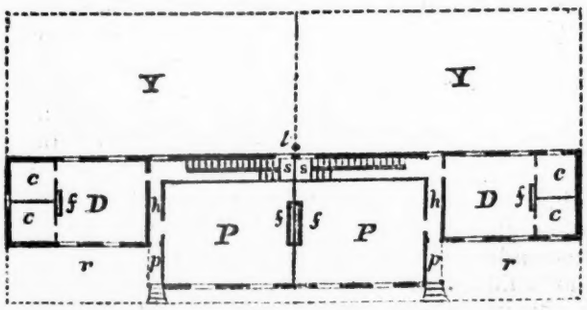
in repute, I fully concur with him in the high estimate he has given of the Dorking.

Lest it might be inferred from the above that the writer has Dorkings for sale, he will state that he has not, and though he may have a few the coming autumn, still the number would hardly bear an approach to the wants already expressed.

EBEN WIGHT.

Boston, Feb. 27th, 1850.

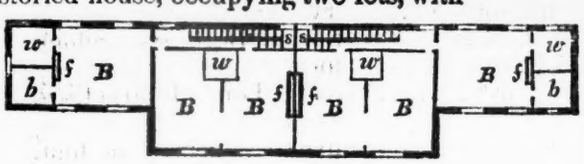
A DOUBLE HOUSE FOR A CORNER LOT.



GROUND PLAN.—FIG. 40.

IN most of our cities and larger classes of towns, from the high price and limited nature of the lots, the dwellings must, of necessity, be densely crowded together, and in most cases, are badly ventilated, and worse lighted, which often renders them gloomy, unhealthy, and far from agreeable to the occupants. Those lots, however, which are located at the corners of the streets, we conceive can be made much more commodious and far more pleasant, if a plan of building on them were adopted similar to the following:—

The adjoining cut, fig. 42, denotes a perspective view of a double three-storied house, occupying two lots, with



SECOND STORY.—FIG. 41.

an attic, basements, and a two-storied wing to each. It is designed for two tenements, being divided in the middle, by a partition wall running from the gable end back, and extending from the foundation to the top of the roof. The tenements are to be entered through a portico at each corner, and also at a door in the basement near the front gate.

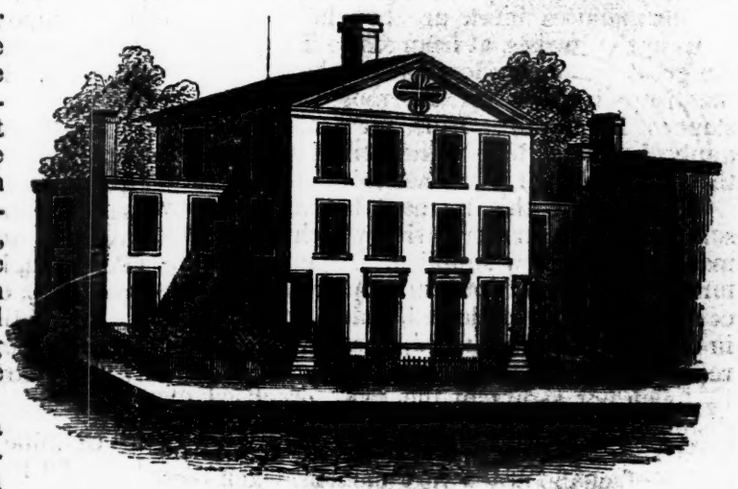
The basements, in the main body of the house, may be occupied for storing fuel and many other articles of use, and that under each wing, as a kitchen. The first story of the house and wings are designed to be 14 feet high; the second story 13 feet, and the third story and attics, 12 feet each.

The main body of the house, which is supposed to stand back from the street 3 feet, is 22 by 50 feet; and each wing, designed to stand back 10 feet from the street, is 15 by 25 feet, one of these extending quite to the street adjacent. The house is protected in front by strong wire or iron fences, and back by a copper lightning conductor, properly pointed and connected with the moisture in the earth.

Thus it will be seen that the house has a cheerful aspect, is well lighted and ventilated on all sides, and each tenement is sufficiently roomy for a moderate-sized family within, and with more than usual accommodation without.

Description of the Ground Plan, or First Floor.—The dotted lines in fig. 40 denote the boundaries of two contiguous city lots, 25 by 100 feet each, and one of them at the junction of two streets.

Y, Y, back yards, each 25 by 50 feet; *r, r*, small front yards 10 by 25 feet each, in which may be planted small shrubs and flowers; *P, P*, parlors, 15 by 20 feet each; *D, D*, dining rooms, 13 by 17 feet; *c, c*, pantries and store rooms, 6 by 6 feet; *p, p*, porticos, 4 by 7 feet *h, h*, entries or halls, 4 by 13 feet, each, communicating with the parlors, dining rooms, and stairways leading to the basements and



PERSPECTIVE VIEW.—FIG. 42.

upper parts of the house. *s, s*, stairways; *f, f, f, f*, fireplaces or chimneys; *l*, lightning conductor.

Description of the Second Floor.—This story, both in the body and wings, is designed to be on the same level; *B, B, B, B*, fig. 41, in the main part of the house, bed rooms, 12 by 16 feet each, those in each tenement communicating with one another by means of folding doors; *B, B*, in each wing, bed rooms, 13 by 17 feet; *b, b*, bathing rooms, 6 by 6 feet; *w, w, w, w*, wardrobes or closets, 6 by 6 feet; *s, s*, stairways communicating with the first and third stories; *f, f, f, f*, fireplaces or chimneys.

The arrangement of the *third story*, is precisely the same as that in the second, in the main part of the house. Each *attic*, on the floor, is 20 by 23 feet, and 12 feet high at the peak.

Should it be desirable to increase the depth of the main body of the house, it may be extended back 15 feet. By this means, there would be room sufficient for double parlors, and an extra set of rooms in each story above.

GUANO.

We copy below from the Gardeners' Chronicle, (English,) some appropriate remarks on this invaluable fertiliser, and which, to no inconsiderable extent, are equally applicable in this country.

At a time when sensible men are acting upon the well-known principle that manure is the mother of wealth, and the most effectual substitute for protective duties, it becomes more important than ever to point out the enormous frauds to which incautious persons are subject. Under the name of cheap guano and artificial manures, farmers are continually buying, at exorbitant prices, what is hardly worth the cartage.

We have repeatedly drawn attention to this fact, especially as concerns guano. We have shown that by means of loam, various kinds of refuse, sand, pounded limestone, and other substances, guano is brought into the market so ingeniously falsified as to defy detection, except under the unerring analysis of the chemist. In this way, materials posessing no intrinsic value, and as manures inert, are bought by unsuspicious agriculturists, at from £5 to £10 a ton, to the great pecuniary loss of the buyer, and to the discredit of one of the most valuable substances in nature. It is no exaggeration to apply that name to genuine Peruvian guano, in the state in which it reaches this country.

We have at this moment before us a new sample of the matters with which the guano market is just now supplied. At no great distance from one of our metropolitan railways, certain stones are collected, which, being roasted in a kiln and then crushed, form a most exact representation of the finest pale guano. Neither by touch nor sight can the most practised eye distinguish it, unasisted by the microscope. This stuff is largely consumed in the falsification of guano at the very moment when these remarks are printed; and there is no doubt that a great deal of the guano that is sold by disreputable dealers consists of it.

What are farmers to do, in order to escape this plunder? The answer is, naturally—consult the chemist—have your samples analysed. But experience shows that men either cannot or will not have recourse to this unerring guide; and, therefore, those who are desirous of saving the public from the fraudulent practices that abound in all directions, are called upon to propose some other test. Such a test is price; that is to say, when guano is offered below a certain price, the buyer may be certain either that roguery has been practised, or that the sample is so damaged as to be worthless.

It is to be remembered, that the measures taken by the Peruvian government, render the introduction of genuine guano through more than one European firm impossible. [This principle is in a good degree observed by the Peruvian government in their transactions in this country.—Eds.] All the Peruvian guano on sale has necessarily been bought of them. Now, their price by the cargo, is £9 5*s.* per ton, in London or Liverpool, and £9 10*s.*, ($47.50,) at all other ports. No man, therefore, can sell genuine guano at a lower price, without sustaining loss. Nevertheless, we hear of it in the north of England at £8 10*s.* and £7 10*s.*, prices at which the retailers must lose from £1 to £2 per ton. Does any one suppose the dealers to be patriots, immolating themselves for the sake of agriculture? Buyers may be sure that they are no such thing; and that their patriotism consists exclusively in filling their pockets at the expense of credulous farmers.

Fraud is at the bottom of all these bargains!

We have now before us analyses of two samples, offered considerably below the cost price of the genuine article. In one of these, at £8 10*s.*, the quantity of ammonia was something more than 10 per cent.; in the other, at £7 10*s.*, it was not quite 8½ per cent. The first contained nearly one fourth part of sand, and the other just one third of black earthy matter resembling ground coprolite, and costing, at the most, £3 a ton.

The valuable analyses of guano by Mr. Way, prove that the average per centage of ammonia in genuine Peruvian is 17½ per cent. nearly, and and that the quantity of sand is not more than 1½ lbs. in every hundred pounds, on an average.

In the cheap samples here alluded to, the earthy phosphates, a most important part of the guano, were only 7 lbs. in a hundred, in one sample, and about 10 lbs. in the other. But the average amount of this substance, in genuine Peruvian, has been found by Mr. Way to be 24 per cent., or thereabouts.

The following calculation will show the position of the farmer who buys cheap guanos, such as the market tempts him with.

	Ammonia.	Phosphates.
Genuine guano, at £9 10*s.*, contains..	17.41	24.12=41.53
Spurious guano, at £8 10*s.*, contains..	10.10	6.80=16.90
Ditto, at £7 10*s.*, contains.....	8.37	10.24=18.61

As the value of guano depends essentially upon its ammonia and earthy phosphates, it will be evident that if genuine guano, costing £9 10*s.*, contains 41 lbs. of them in every hundred pounds, guano, containing 17 per cent. only, is worth no more than £3 18*s.* 6*d.*; so that the dealer who sells such stuff at £8 10*s.*, pockets £4 11*s.* 6*d.* per ton, at the expense of the simple purchaser.

There is no evading this result, and therefore it is that farmers are cautioned against having anything to do with low-priced guano.

It is true, that he may also buy spurious guano at a high price; but against that he may guard himself by a vigilant scrutiny of the character of the person with whom he deals. There are plenty of respectable men all over the kingdom, whose ruputations place them above suspicion, and to them we earnestly recommend buyers to confine their orders.

THE FARM OF L. M. STEVENS, NORWALK, CONNECTICUT.

As I have frequently observed in the Agriculturist, invitations to those who are engaged in agricultural pursuits, to contribute to the pages of your periodical, their observations and the results of their experiments in this department of industry, I am induced to forward to you, for publication, a brief account of the improvements which Mr. Stevens, of this town, has made on his farm. It will show that, in one instance, at least, agriculture in Connecticut, is not pursued upon the old system, so justly ridiculed by Mr. Robinson, but that great improvements have been, and are being made; and I entertain no doubt that, if all the facts relating to this subject could be elicited, it would be shown that the land of "steady habits" will bear a favorable comparison, in this respect, with any state in the Union.

The farm of Mr. Stevens is situated about half a mile west of the village of Norwalk, and contains about 175 acres, of which 30 are in wood. It is elevated some 200 feet above tide water, and slopes slightly towards the southwest. The subsoil is a clayey loam. When the present proprietor came into possession, about six years ago, he found the soil, by negligent and improvident management, very much impoverished—to such an extent, indeed, that it would not pay for cultivation. The fences had fallen down, bushes were growing up in the fields, and the whole place presented a most forbidding aspect. The quantity of hay produced on these 175 acres was so meagre that it was found impossible to keep in tolerable condition, through the winter, more than three head of cattle and a horse. Not discouraged under this state of things, Mr. S. immediately on taking possession, combining his own experience with that of intelligent practical farmers in his neighborhood, and consulting the best agricultural publications, commenced a series of improvements which have succeeded beyond his most sanguine expectations. Determined to make his farm the most productive of any in this section, he has spared neither time nor expense, in securing this result. As yet, owing to the limited time he has been in possession, and the extent of his farm, many of his fields are still comparatively unimproved, and necessarily unproductive, and present a striking contrast with those that are highly cultivated. With his improved lands, however, he challenges a comparison with any farmer in the country.

He commenced his improvements by clearing the land of stone and bushes, and erecting solid and durable stone fences. Many of his fences are five feet in thickness. Most of his land is now enclosed with fences of this description. All the stone on the land has been put in fence, and the plow was not allowed to disturb the soil until this was done. When a field was thus prepared for cultivation, it received a liberal manuring, and was planted with corn and potatoes for a couple of years, and if the soil the third year was found sufficiently enriched and subdued, these crops were followed by oats, and the land seeded. Most of his meadows now yield about three and a half tons per acre of hay; and it is a rule with Mr. S., that when a field yields less than two tons, to break it up in the spring, and plant it with corn or potatoes, to be followed by some of the cereal grains, and when fully subdued, and well manured, it is again seeded. It is a part of the system of the proprietor, to break up his fields in regular course; and when he brings the whole of his farm under cultivation, it is his intention to proceed, in this respect, with the utmost regularity and method. Thus far, by pursuing this course, he has been highly successful in reclaiming his worn-out fields, and in most cases their cultivation has been attended with profit.

Mr. S. thinks that by applying a liberal quantity of manure to his land, preparatory to seeding, it will yield for six years, without further aid, in the form of top-dressing, &c., remunerating crops of hay—the sixth year not less than two tons per acre. But in no case does he delay the breaking up of any field that produces less than this amount. He has also used ashes on his land to some extent. On one worn-out field, he applied leached ashes at the rate of 120 bushels to the acre. The product of hay on this field for three successive years, was three tons and a half per acre.

There are on the farm four barns—one, the largest, was erected last summer. Its dimensions are 36 by 72 feet, with a basement, in which are the stables. These are so constructed as to afford the greatest convenience in feeding, and for the accumulation of manure. This barn is, probably, the largest and most conveniently constructed of any in town, and it is well filled. For fertilising his land, Mr. S. has not depended upon the manure made on his farm, but makes large purchases wherever it can be found in his neighborhood. But he has found it almost impossible to resuscitate his exhausted land without pursuing this course.

Some idea may be formed of the improvements made by the present proprietor, on his farm, from a statement of some of the productions the last year. The estimate is a very moderate one, in most instances being considerably below the actual amount, and is as follows:—

100	tons of	hay,
600	bushels of	oats,
200	"	wheat,
100	"	barley,
500	"	corn,

besides a large quantity of potatoes and other root crops. He also pastured 15 head of cattle. When it is borne in mind that much of this farm is still in an unproductive state, I think it will be conceded that there have been some improvements made on one farm in Connecticut. If Mr. Robinson will visit Norwalk, he will have the pleasure of seeing one man who does not follow the "American system" of "skin, shave and waste the soil;" and on one farm he will not see "the same old stone walls and rickety rail fences, bush pastures, bog meadows, alder swamps, stoney fields, and scanty, because unmanured, crops, that were to be seen in the same

place fifty years ago," and I can assure him that he will meet with a hearty welcome from Mr. Stevens.

Mr. S. has erected, during the last summer, a new and capacious dwelling house, which, for architectural beauty, is not surpassed by any private residence on the north shore of the sound. It lies pleasantly embosomed among every variety of fruit and ornamental trees. The view from it is extensive and imposing; and from the tower, the beholder looks down, as it were, upon Fairfield, Bridgeport, and other towns to the eastward; while to the north and west, the vision rests upon a long succession of hills and dales. It commands a view of the waters of the sound for many miles both to the east and west, and, also, of Huntington, and other places on Long Island. Every one who has visited the spot has not failed to be impressed with the beauty of the scene; and competent judges have declared it to be the most pleasant location on the shores of Long-Island Sound.

*

Norwalk, Feb., 1850.

POULTRY INQUIRIES.

WILL you be good enough to inform me, through the Agriculturist, the reason of your opinion, in one of the late numbers of your paper, that a large number of hens, say 1,000 will not succeed together; whether you have ever known it judiciously attempted, and if unsuccessful, the cause?

I have been very successful on a small scale, having raised 160 chickens last year, without losing one, but have been cautioned by others, not to attempt to increase my stock. If you had plenty of land, how many would you put together, and how much land would you allow for each lot, to be enclosed with a picket fence?

E. W.

New York, Jan., 1850.

There is one principle in fowl-breeding, the truth of which has been known from the days of Columella, (more than eighteen hundred years ago,) down to the present time, which is this: "The more densely poultry are congregated, the less profitable they will be; the more thickly they are crowded, the less they will thrive." We do not wish to be understood, however, to say that a large number of fowls placed together will not, in any case thrive; for, on the contrary, there are well-authenticated instances where they have succeeded to the number of several thousand. The chief objections to confining 100 or more in a limited space, are the *liability of contracting contagious diseases* from each other; the *quick exhaustion of natural resources of food*, such as worms, insects, seeds, &c., which in a small number often will constitute their entire sustenance, while the ground is bare; and the *havoc they sometimes make on garden and field crops*, when suffered to run at large. One gentleman informs us of an instance where 1,000 fowls were placed together, provided with ample food and accommodation, and less than six months after, nearly all had died of the "gapes," or some similar disease; another says that fifty hens, with their broods, devoured more green corn, cabbages, melons, &c., in the space of two months, than their carcasses were worth when sold.

We would say that farmers, or others, who have plenty of land, such as pastures, lawns, or cultivated fields, in which their fowls could run at large, could safely and profitably keep from 20 to 50 brooding hens, and a proportionable number of cocks. With proper care and ordinary luck, these would produce from 200 to 400 chickens, and twice as many eggs, at a comparatively small cost.

NEW-YORK STATE AGRICULTURAL SOCIETY.

AT the Annual Meeting of this society held at Albany on the 17th of January, the Treasurer read the yearly report showing the following general results:—

RECEIPTS.

Bal. in the treasury, Jan. 17, 1849,	433.55
Sale of mortgage given for money previously loaned,	2,000.00
From the State Treasury,	883.23
For memberships at annual meeting,	97.00
Interest on investments,	350.00
Temporary loan,	593.61
Receipts at State Fair at Syracuse,	8,144.55
John A. Taintor, Hartford Conn., for extra prize on sheep,	100.00
Sundry other sums amounting to	72.50
	$12,674.44

PAYMENTS.

Debts of 1848,	$2,037.15
Premiums,	4,397.66
Salary and travelling expenses of the Secretary, and salary of Messenger,	1,410.88
Expenses connected with the State Fair,	792.79
Repayment of loan,	600.00
On account of Library and Museum—Repairs of Agricultural Rooms—Incidental Expenses, &c., &c.,	1,334.66
	10,573.14
Balance in Treasury, Jan 16, 1850,	2,101.30
	$12,674.44

The following is a list of officers appointed for the ensuing year:—

President.—E. P. Prentice, Albany.

Vice Presidents.—Ambrose Stevens, New York; Lewis G. Morris, Westchester; Anthony Van Bergen, Greene; Z. C. Platt, Clinton; J. B. Burnet, Onondaga; E. C. Frost, Chemung; Oliver Phelps, Ontario; Nelson Van Ness, Chatauque.

Corresponding Secretary.—B. P. Johnson.

Recording Secretary.—J. McD. McIntyre.

Treasurer.—Luther Tucker.

Executive Committee.—B. B. Kirtland, J. J. Viele, H. Wendell, A. Thompson, Henry Wager

BARLEY FOR SOILING.—Mr. Moore, of Georgia, considers this grain one of the best that he uses for that purpose. It should be sown on good land, and may be sown from September to February, in this latitude, and cut any time before ripe.

AGRICULTURAL GEOLOGY.—No. 2.

CLAYS being derived from the wearing down of rocks, must of course contain all the ingredients and partake of the characters which those rocks possess. Thus the depth of a soil depends upon the rock being easily decomposed, and its texture depends upon the nature of the components. The number of chemical substances which soils derive from rocks are fourteen, namely :—

Silica, or flint earth,	Common salt,
Alumina, or clay earth,	Potassium,
Lime,	Sulphur,
Potoxide of iron,	Sulphuric acid,
Peroxide of iron,	Phosphoric acid,
Oxide of manganese,	Fluoric acid,
Magnesia,	Carbonic acid.

Of these, the first three generally exist in the greatest amount, but the last seven are really the chemical elements of the soil. The oxide of manganese and protoxide of iron exist in few soils, and then only in small quantities. There are few rocks, however, which do not supply all of these substances in variable proportions.

Granite rocks, which apparently furnish so little of soil, are yet the source of all the ingredients found in soils. They are the rocks of the oldest geological period, and those found at a more recent date derive their materials from the primary granite. A knowledge of the deposition and nature of these rocks is of indispensable necessity.

This rock is called the basis or crust of our globe, from being that found lowest down, underneath every other in position, if we except greenstone trap; and if it appear at any time as a surface rock, or form those rugged hills which are scattered over Massachusetts, Maine, Vermont, and the northeast part of this state, it is because stratified rocks, or those of more recent formation are wanting. It is termed an igneous or fire-born rock for two reasons; first, because wherever found, the land is thrown into unusual elevations, having wild and sublime hills with pointed peaks, very unlike the round undulations of a limestone country, which hills have been raised by a gradual volcanic upheaval of the crust. The second reason is its crystalline character. This is due to its having been at one period melted by subterranean heat, and cooling slowly under great pressure.

Granite is generally composed of three minerals, not always found in the same proportions, the variations giving the peculiarity to the rock of the locality. These minerals are quartz, felspar, and mica. They are themselves compound substances grouped together in definite proportions, amounting to eleven in number and are arranged to form the following bodies :—

Silica,	Potash,	Fluoric acid,
Alumina,	Soda,	Phosphoric acid,
Lime,	Iron,	Water.
Magnesia,	Manganese,	

The quartz, which forms the crystalline part of granite, is composed solely of silica. When it exists in any amount, it gives a hardness to the granite, and a want of fertility to the soil.

Felspar is the pale white or reddish mineral, the most important in an agricultural point of view, both because it decomposes readily, and because it furnishes the valuable food of plants. Its ready decomposition is due to the large quantity of potash which it contains. It yields five elements to the soil by its wearing away and is composed in 100 parts of

Silica,	68.0
Alumina,	20.0
Potash,	8.3
Lime,	2.0
Oxide of iron,	0.5
Loss,	1.2
	100.0

Some varieties of felspar contain as much as 17 per cent. of potash. Leaving out the lime and iron, which are in small amount, silica, alumina and potash are the chief constituents. The first is an acid, and tends to unite with alumina and potash, forming a silicate of alumina, and a silicate of potassium. In this state in the rock, they are insoluble, but when the latter becomes exposed to the air and weather, this arrangement is broken up, the carbonic acid of the air being the chief cause; this acid unites with the potassium to form carbonate of potash, and the silica is displaced as free sand, so that a decomposed felspar is thus made up of a silicate of alumina, carbonate of potassium, and silica.

Silicate of alumina is fine pottery clay, and is that which gives cohesion and the retentive property to soils; the carbonate of potash has all the properties possessed by common pearl-ash with which it is identical. In fact, all the pot and pearl ashes of commerce are derived from felspar rocks. This potash dissolves readily in water and is carried away from the side of the decaying rock into the soil below, where it is distributed through the ground by the currents of water constantly flowing through the soil.

The more felspar a granite contains, the more valuable it is, inasmuch as it forms a deeper soil, it yields more alumina, or clay, which gives cohesiveness to the soil, prevents the soluble saline matters being washed out, and contributes large quantities of carbonate of potassium, so useful a mineral to many plants. The absolute quantity which felspar can yield is much greater than could be supposed at first view, one Hessian acre, or 40,000 square feet, twenty inches deep, being able to afford 1,152,000 lbs. of potash. Hence it is that attempts have been lately made, and with success, to manufacture the commercial potashes out of felspar. It is from this abundance of potash that such crops as flax, and potatoes grow so well in granite soils, these two plants requiring potash as an essential element

Granitic districts, not elevated much above the sea, are naturally fertile, for they contain the fine clayey matters which have been washed down from higher districts, and the warmth of the sun is greater. In fact, it is the high and exposed situation which granitic countries generally occupy, that renders them so barren. This is the case with the district between Lakes Champlain and Ontario, the granite region of

this state. Its elevation, as much as its thin soil, contributes to its infertility. So it is with the western part of Massachusetts, much of Connecticut, and the greater part of Maine, and New Hampshire, outside of which states there is but a small granite region east of the Mississippi, and south of the lakes.

We have mentioned that quartz, felspar, and mica exist in variable proportions in granite. Taking as the average, that in six parts of rock, there are three of felspar two of quartz, and one of mica, it would have the following chemical constitution in 100 parts:—

Silica,	73
Alumina,	15
Potash,	9
Magnesia and lime,	1
Oxide of iron and manganese,	2
	100

The soil formed from this would be somewhat modified in composition, there being generally more sand, less clay and earthy matters; thus a soil from Clinton county afforded us by analysis, in 100 parts, as follows:—

Silica,	75.0
Alumina,	4.0
Peroxide of iron,	1.6
Salts of potash,	8.0
Common salt,	.4
Salts of lime and magnesia,	1.2
Phosphoric acid,	a trace.
Moisture and loss,	9.8
	100.0

The comparison between what the rock yields and the soil contains, shows the loss which the finer matters of the soil undergo.

REVIEW OF FEBRUARY NUMBER OF THE AGRICULTURIST.

Houses for the Poor.—Convince capitalists that to build such houses will be the most profitable investment of their money, and the poor will have comfortable houses. Until that time, I very much fear that "the poor you will always have with you." There is no animal that is of any value to man, that is so little cared for by his fellow men, as man. If this new plan of building for the poor can be carried into successful operation, so as to reduce the amount of wretchedness among that class in all our cities, it will call down blessings upon the heads of all who aid in accomplishing it.

Soaking Corn in Saltpetre.—There is one grave question connected with this matter that ought to be settled before making too free with such a dangerous article; and that is, "Will saltpetre explode?" I would as soon believe this as that soaking corn in saltpetre would prevent the crows from pulling it up. Perhaps, though, they have ascertained it will explode. The best way that I ever saw to prevent the birds from pulling up corn, is to put so much on the surface that they have no need to look for that below. Try it.

The Weeping Cyprus.—It makes me "weep" to see this country hankering after imported trees, when we have the handsomest native trees on earth. "Ten dollars" for a little four-inch sprout! Gentlemen you are getting to be very extravagant.

Japan Cedar.—Another foreign tree. "Its wood is much used by the Japanese for cabinet work." Because they have no better. If they had some of our American black walnut they never would use this soft cedar. I repeat, we have the best wood in the world. I know Japan well, having visited the island several times.

Farming of Mr. Hancock.—I wish Mr. H. would give us the items of his farm profits; as it strikes me that any one within reach of a city market, who manures as he does, must make it profitable.

Agricultural Chemistry.—"There is much to be learned in the science of agriculture, &c." True, and one of the most important of all is to learn men that it *is* a *science;* for it is a most lamentable fact, that the great body of all who are doomed to get their bread by the sweat of the brow, while cultivating the earth, seem to conduct themselves as though they were determined to establish as a fact, that "ignorance is bliss." And many of them, if by chance they happen to get your periodical in their hands, will never read these articles headed "Agricultural Chemistry," because they have predetermined that science has nothing to do with agriculture.

Saving Manure.—The gentleman noticed under this head, is evidently not one of the above class. But then he is not a "natural-born farmer," He has acquired his information by reading, study, and reflection, and a little exercise of common sense and enterprise.

Cure of Hydrophobia.—There is also a plant growing in this country that is said to cure this disease sure. Some person in Ohio once wrote to me about it, and sent me some seed; but when one of my old out-houses burnt, I lost both seed and name of the plant and writer. Will some one inform me if they know anything about it? I wish we could discover something to cure the hydro-*mania* among farmers. This is a disease that so affects the mind that they continue year after year to perform a sort of *hydro*-culture upon undrained soil, which would produce double crops if the owner had half as much aversion to water as the subjects of hydrophobia.

Dimensions of a Cart to Haul Shocks of Corn.—This article is worth more than ten years' cost of the Agriculturist, to any farmer in the United States. The only wonder is, that any one should neglect or refuse to take a paper containing just such valuable articles in every number.

Patent Hoops.—Very neat in appearance no doubt, but are they half so good as hickory or iron, or much cheaper?

Underdraining Meadows with the Subsoil Plow.—I have no doubt of the advantage to all clay land by the process here recommended. But instead of using the common subsoil plow to form the drains, I would recommend a new implement. Take a two-inch round bar of iron about eighteen inches long, and weld two thin coulters two feet long to it, about a foot apart

and attach these to the plow beam and it will run easier and steadier and make a better drain in my opinion, than the subsoil plow.

Native Grasses.—How can you expect individuals to do a duty that the state society should do? Let the society offer a premium worthy of the name of one for this very information, and it will do more good than a premium for the fattest boar or biggest bull ever raised.

Who is Reviewer?—It would have better suited my pleasure and convenience to remain *incog.*, while writing these papers; for so long as I wore the mask, I could have spoken with more ease and freedom, and I think with more profit to the readers of the Agriculturist than I now can; I very much regret that the editors should think it advisable so far to yield to public curiosity, as to make me and my happy home in the "Valley" so widely known. However, as it is now done, it cannot be helped; and I shall endeavor to make the best of the matter, by continuing, if possible, as free and jovial as ever. But if I do not pay the editors in their own coin one of these days for this exposure, it will be because I cannot. The first leisure day I get, I intend to invade their editorial sanctum, capsize the tripod, ransack the warehouse and store, dive into the machine shop, and turn everything on the premises inside out, to the astonishment and gaze of the public. Then we shall see what we shall see. In the mean while, speed the plow—give me a clear field—and float high the flag of an old sailor's rights.

Guano—How should it be applied?—Very much after the Dutchman's directions for using lime. "In der virst blace you shall pe zhure you boot der lime on der landt." Well, what next? "Pe zhure you shall boot a leedle more lime in der landt. It vill to him goot every dime."

Sea-Marsh Mud.—This is one of the most easily-obtained and most neglected manures. It is very valuable.

Products of the Mulberry.—It is very strange that among all the silk speculations in this country, that the use of mulberry bark has never been brought into notice. Besides making cloth, it might be used for many other purposes. Small cordage made from it would be very strong. Mulberry leaves and sprouts make excellent forage, also. We have yet much to learn about the products of this earth.

American Provisions in England.—The article under this head contains some home truths, that the reader had better refer back to and take a careful note of. He may profit by it.

Value of Corn Cobs.—Look at this article again, and then if the spirit of waste is on you strong, go on throwing your cobs into the street, or any where else. Don't even use them for manure, much more for feeding stock. Your father did not consider them good for anything, and I *guess* he know'd. "I ain't agoin' to do nothin' daddy didn't do afore me."

A Fat Durham Ox.—This portrait occupies too much valuable room; though it might have been interesting to readers if the size and weight had been given. As it is, not one in ten will appreciate it as anything but the picture of an ox.

New-York and Erie Railroad.—This is a capital article, and will be read with a great deal of interest in places where the readers will hear of this road for the first time.

Products of Illinois.—A very fair picture, but do you grow rich upon this rich soil? How is it with fever and ague, flies and mosquitoes, and some other little things I formerly encountered travelling over the prairies, when looking after my wild lands that I was so unlucky as to purchase during the excitement of '36? So much for listening to the advice of some very good, *apparently disinterested* friends! But you don't bite me again, my good fellows.

Drilling Grain—Thick and Thin Sowing.—There are some facts set forth in this article that ought to be well investigated. I have always been an advocate of *thick* seeding. I am much in favor of drilling wheat, and one objection I have had to drills is, that they do not use seed enough. "Nugator" should have given us the quality of his soil, to enable us to form a better opinion of his practice. Why not "inform us who he really is," and who is that "honorable gentleman in these parts," that has tried experiments? If there is any *light* in Accomack, pray let it *shine.*

Wheat Bran, as a Fertiliser.—What next? Who says "that a hadful to the hill of corn will double the crop?" Let us have names, places, dates, and full particulars from the bran experimenters themselves.

Clover-Sowing Machine.—Another article worth ten years' subscription. So is wire fences.

Profitable Farming.—There are thousands of places in the United States, where just such results might be produced by just such a course as here detailed. I think this gentleman must have read something besides law books, to enable him to "take the kinks" out of such land.

Georgia Farming.—A course that might be profitably followed by half the farmers and planters in the Union. Too much land is the great error of the whole farming interest.

Improvement in Sugar Making, by the use of bi-sulphate of lime, as discovered by Melsens, if the accounts are true, is one of the most important discoveries of this age of wonders. Because sugar is no longer a luxury, but a necessary of life, and healthful food; and any process which tends to cheapen it, will prove a public blessing.

REVIEWER.

AMOUNT OF FOOD RAISED ON AN ACRE.

THE amount of human food that can be produced upon an acre is worthy of great consideration. One hundred bushels of Indian corn per acre is not an uncommon crop. One peck per week will not only sustain life, but give a man strength to labor, if the stomach is properly toned, to that amount of food. This, then, would feed one man 400 weeks, or almost eight years!

Four hundred bushels of northern potatoes, can also be raised upon an acre. This would give a bushel a week for the same length of time; and the actual weight of an acre of sweet potatoes is 21,344 pounds, which is not consider-

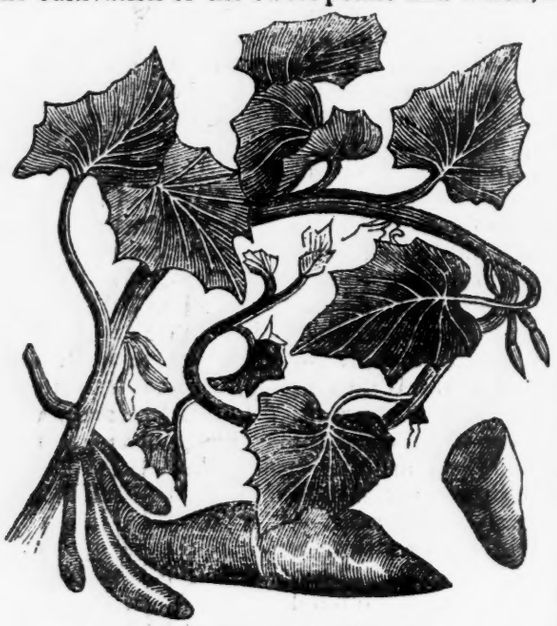
ed an extraordinary crop. This would feed a man six pounds a-day for 3,557 days, or nine and two-thirds years!

To vary the diet, we will occasionally give rice. This has been grown at the rate of ninety-three bushels to the acre over an entire field. This, at 45 lbs. to the bushel, would be 4,185 lbs.; or, at 28 lbs. to the bushel, when hulled, 2,604 lbs., which, at two pounds a-day would feed a man 1,302 days, or more than three and a half years!

Upon reflection, it is not very wonderful that so many non-producers are able to find food, when we see how many mouths one laborer can fill.

CULTIVATION OF THE SWEET POTATO.

Having seen an article from the transactions of the New-York State Agricultural Society, for 1848, written by S. S. Ridder of Alabama, on the cultivation of the sweet potato and which, in



Sweet Potato.—Fig. 43.

many particulars, is defective or not fully explanatory, I will give you our manner of cultivating that valuable root in this section, which is done on a pretty large scale, for the Philadelphia and New-York markets, and by others only for family use.

As soon as the frost is well out of the ground, which is generally from the middle to the last of April, in this latitude, make a hot bed by taking some rough boards, setting them on edge in any convenient place, where the bed will have the rays of the sun, and out the way of pigs or poultry, and form a box 4 feet wide and length according to quantity of the tubers, or sets, to be put down, and 15 inches deep. Put fresh manure from the horse stable, not too coarse nor too fine; tread it down until it is about 12 inches deep and then throw on a few buckets of water so as to make it damp (not wet). Now put on a layer of sandy loam one and a half inches deep; place your potatoes on promiscuously about one inch apart and three inches from the boards which form the box; cover the potatoes with the same loam as before, to the depth of full 2 inches. Do not wet the loam any more than what is natural to it; cover the bed all over with hay or fine straw to the depth of 6 inches, when pressed down, which do by putting on some loose boards so as particularly to shed heavy rain.

Now examine your bed every day, by uncovering a small place near the centre, and thrust in your hand, to feel if it is becoming too hot. If too warm, uncover for a day or so, and be sure to cover up the sets at night, and keep them covered until some of the sprouts make their appearance above the surface, which they will generally do in from eight to fifteen days; then take off the cover and put it on no more, unless it should turn cool, and bid fair for frost.

The potatoes should not be taken out of the bin or hole where they have been kept through the winter, until the hot bed is ready to receive them; for they will injure by wilting or drying. Be sure to water the hot bed after the plants get to growing. If the weather should prove dry, it will generally yield three or four crops of plants. So much for the hot bed.

Now choose the sandiest piece of land on the farm. If it is poor, so much the better, for grass and weeds will not spring up and choke the crop as it will on land already rich. Give it a good coat of well-rotted manure, plow it in flat and tolerably deep; let it lay a week or so, and then run a harrow over to pulverise and keep the soil clean. When your plants are nearly large enough to transplant, ridge up your land with a one-horse plow, about 3 feet apart; rake off the top of the ridge even and flat. Let it remain until a shower of rain; or, if the weather should be dry, plant out just before night, and water well. The plants are old enough for planting out when the leaves get their natural size, and will bear pulling.

In taking up the young plants, place the left hand on the potato, when you go to draw them from the bed, and pull up with the right. Plant them about 12 inches apart on the ridge. Do not make a small hole with a stick, as is usually the case to insert the plant, but "grabble" a hole with the hand, so that the roots will lay straight.

Some farmers prefer planting in hills, which can be easily done with a weeding hoe, after the ridges are made as directed above; put two plants in a hill. Weed or dress the crop with the hoe, as soon as any grass makes its appearance; then plant between the ridges and earth up with the hoe, when the vines get to running pretty thick over the ground; keep the weeds out by pulling by hand or otherwise, until the vines cover the ground. When they are out of danger and need no more tilling, pull the vines loose from the ground, if they should take root by being covered up, or by heavy rains. Set out until about the 25th of June; they will generally mature in any latitude where the pumpkin will thrive.

To keep sweet potatoes through the winter, brick up a bin or hole under the cook house

floor and immediately in front of the hearth, or under the stove. Put them in dry and keep them so; or they may be kept in boxes or barrels by keeping them moderately cool. Fill up with potatoes and then pour in dry sand from the road until it well fills in among the potatoes.

JOHN G. CHAMBERS.

Black-Swamp Farm, Kent Co., Del. Jan., 1850.

MEDICINE FOR HORSES.

As a general rule, any medicine, *except an emetic*, is good for a horse that is good for the same complaint in the human system. Multiply an ordinary dose for a man by nine, for a common horse, or even by twelve for a very large horse.

The above was obtained upon a late visit to Col. Wade Hampton, of South Carolina, and few men in this country are more competent to give prescriptions of the kind than that gentleman. He has been long known as one of the best breeders of horses, in the United States, as well as one of the first-rate cotton planters and stock breeders in the south. S.

SUCCESSFUL EXPERIMENT IN GROWING THE OSAGE ORANGE.

IN a late conversation with Mr. Francis Bulkley, of Columbia, S. C., he informed us that from twelve Osage oranges he got about 1,200 plants. His plan was as follows:—He took the fruit in February and cut around the centre so that he could pull it in halves, without cutting and destroying any seed, which it would do to cut entirely through. He then commenced cutting small pieces from the edge and peeling up flakes to the centre, each piece of which contained two or three seeds imbeded in the pulp. These he immediately planted in moist, rich earth, in drills, and not over two inches deep.

In April and May, all apparently came up and grew in the course of the summer, some as high as five to seven feet. In December, he carefully took them up, cutting off the tap root and leaving it in the bed to grow, or planting it, and other root cuttings to make more trees. The tops he cut off within two inches of the ground, and then set out the stumps for a hedge in two rows, six inches apart, and two feet between the plants, with one in each row, opposite the space in the other, thus . · . · . · . Before setting them in the hedge row, he dug a ditch two feet wide and two feet deep, and filled it with rich mold, taken from fence corners and other rich spots.

After the seed is planted, and while the plants are small, and after the hedge is set until the plants get a start, in case of drouth, it would be advisable always to give artificial waterings.

Mr. Bulkley is satisfied that by pursuing this course, wherever the fruit can be obtained green, that an average of one hundred plants can be obtained from every orange. He estimates that there is fruit enough every year in Columbia, to make 200,000 trees. He never has succeeded in vegetating one seed in fifty after they became dry. He thinks that in his latitude a pretty that when well set, it will stop all animals, man good hedge can be grown in three years, and included, and will not require so much labor to keep in repair as rail fence; for that has to be renewed as often as once in eight years, in all the south.

We would remark that it would not be difficult to procure Osage oranges from Louisiana, as they could be sent to New York as well as sweet oranges.

TO CORRESPONDENTS.—Please to write short, practical articles upon something particular, instead of long essays upon agriculture in general. The former are perused by our readers with avidity, while the latter are generally skipped, as dull and uninteresting.

INDIAN OR GRAND MILLET.

THE grand or Indian millet, (*Sorghum vulgare,*) as its name implies, is a native of India, where it is much used for feeding poultry, and is frequently sent to Europe for the same purpose. It is much cultivated in Arabia and most parts of Asia Minor; and has been introduced into Italy, France, Spain, Switzerland, and some parts of Germany; also, into China, Cochin-China, and the West Indies, where it commonly grows five or six feet high, or more; and, being esteemed hearty food for laborers, it is called "Negro Guinea corn." It has been raised on a limited scale at the south, and doubtless would succeed in all the middle and western states, and perhaps still further north.

MILLET.—FIG. 44.

The leaves of this plant are long and broad, having a deep furrow through the centre, where the midrib is depressed in the upper surface, and is very prominent beneath. The leaves are about two feet and a half long, and two inches broad in the middle, including the stalks, with their bases. The flowers come out in large panicles at the top of the stalks, resembling, at their first appearance, the male spikes of Indian corn. They are succeeded by large roundish seeds, which are enveloped in chaff, and guarded from birds, by long bristles, or awns. There are two varieties, one distinguished by black, and the other by red-husked seeds.

The flour of this grain is very white, and is said to make good bread or cakes. In Italy, it is chiefly used for feeding poultry and pigeons.

It is sometimes fed to horses, cows, and swine. It is stated, however, that cattle fed on the green herb, are apt to swell and die, but thrive on it when dried.

This millet may be cultivated, in the same manner as our broom corn, and on the same kind of soil; or it may be sown broadcast, after the manner of oats or other kinds of grain.

THE FOREST SCENERY OF CALIFORNIA.

I WILL now proceed to give you an outline of the forest scenery of California, so far as I am enabled to do after travelling above 500 miles on the Sacramento and San Joaquin Rivers and their tributaries.

In the immediate vicinity of the city of San Francisco, their are no trees, the soil being miserably sterile, and supporting only a few decrepid shrubs and scrub oaks. As you ascend the extensive bay, you soon perceive the valleys and hill sides in many localities sparsely covered with patches of the evergreen oak, low set on short bodies with dense heads, resembling, when seen at a distance, our medium-sized apple trees. No other tree is seen below the union of the Sacramento and San Joaquin, except now and then a Californian buckeye which here forms a small tree, or rather large shrub, of about 15 feet in height. After passing the junction alluded to, there are no more trees seen while ascending the San Joaquin until you arrive at Stockton, which is 150 miles from San Francisco, and about 100 above the junction, save some few marsh willows of pigmy growth; the whole intermediate space being one vast marsh of "tula," or rush, as far as the eye can reach.

In ascending the Sacramento, and after passing through a region of tula, the shores abound with two species of willow, a few ash, and alder trees, some oaks, a species of negundo, platanus, cephalanthus, all of moderate stature and decrepid appearance, with the wild grape overhanging many of the smaller trees and sometimes those of 30 feet in height; and the misletoe and long moss, pendant from many oak trees, the former sometimes growing also on the alder. A species of blackberry, and a rose with profuse corymbs of 15 to 20 flowers, are seen growing on the river banks. The Californian white oak, which I shall describe hereafter, is the only tree growing at Stockton, and the only lofty one besides the platanus, growing at Sacramento City.

The immense forest region of this section of California, lies within 30 or 40 miles of the summit of the Sierra Nevada, and is comprised principally of pines, cedars, and arbor vitæ. Many of the most majestic pines grow within five miles of the loftiest peaks, and are unsurpassed and perhaps unequalled in dimensions by any species of the same family found in any other section of the globe. These resinous trees seem only suited to a cool situation, as they nowhere arrive at the same dimensions when found growing in warmer localities, and they are never met with at all until you ascend the mountain region about 180 miles above San Francisco; and the dimensions of the respective trees continue to be enlarged as you advance, until you have reached the very elevated region before referred to. The largest coned pine, which is called here "gum or sugar pine," on account of the pitch which exudes from it, and of its saccharine flavor, attains a height of 250 to 300 feet in the most favorable positions! but in the arid regions of the lower ranges of mountains it is limited to 100 feet. It spreads its lateral branches to a considerable extent, the leaves are eight inches long, light-green, and three in a sheath; the cones, before opening, are 20 inches in circumference at the base, and of proportionate length; the seeds similar in size to those of the European stone pine, (*Pinus pinea,*) and equally palatable, and are anxiously sought for and eaten by the Indians, and by the Spanish inhabitants. The new cones are formed the beginning of October, and have the shape of a rosette, and the mature ones shed their seeds towards the middle of the same month.

The small-coned pine attains an equal stature, under the same circumstances, but is of spiral growth, the branches extending but a moderate distance, and forming a contracted pyramid; the leaves are nine inches in length, dark-green, and three in a sheath; the cones of this species are only one third or one fourth the size of those of the preceding species; the seeds are small, and shed at the end of September. The young cones are formed in October.

The Californian cedar, growing on the Snowy Mountains, attains a height of 200 to 250 feet, is one of the most splendid trees of its class, and is found in the loftiest regions, intermingled with the two before-named pines. The arbor vitæ attains a height of about 30 feet on the rivers near Sacramento and Stockton, after you have ascended the first range of mountains, but on the Sierre Nevada it rises to the height of 80 feet or more, forming a regular and beautiful cone. The foliage closely resembles that of the Thuja siberica, and is regularly plicate and highly ornamental.

Photinia serrulata is found around the harbor of San Francisco, and is also plentiful as soon as you ascend the mountainous districts, and it is everywhere the most splendid evergreen shrub of California, for the beauty of its foliage as well as for its flowers, and also when in fruit. Its large radiating panicles of blossoms begin to expand in June, and continue in succession for a lengthened period; they are white and fragrant, and are succeeded by oval orange-colored berries, the size of small currants, in very large compound panicles, which are at maturity in October, but remain a long time, and are highly ornamental. I measured some specimens of this shrub, whose main stems were a foot in diameter and the branches spreading over a circumference of 35 feet.

The next evergreen in point of beauty, and which by many might be deemed superior to the preceding on account of its distinctive character, is a magnificent laurus, or bay tree, which attains a height of 20 feet with a diameter of four to five inches. It is rather a large shrub than a tree, with a profusion of branches thick-

ly clad with foliage, the bark yellowish-green, the leaves deep-green with an even border, lanceolate, about four inches long, and one broad, alternate, but irregularly placed around the branches at about half an inch from each other. It is of very thrifty growth; the fruit ovate, about the size of a small lime, and usually two or three together, rendering it highly ornamental. They remain green until October, when they become straw-colored, and attain their maturity. Both the fruit and the leaves are odoriferous and pleasant, having the same fragrance as the West-Indian bay, from which "bay rum" is made.

The flowers I have had no opportunity of seeing, but the flower buds for the ensuing spring were already formed at the beginning of October, when I discovered this most beautiful tree, which I consider the greatest acquisition I have yet met with in California. The Photinia serrulata, however, cannot be deemed a new acquisition, it having been cultivated for some years in my gardens on Long Island and elsewhere. I shall transmit you a continuation by the next steamer.

WM. R. PRINCE.

Sacramento City, Dec., 8th, 1849.

Ladies' Department.

WHAT IS DIRT?

OLD Doctor Cooper, of South Carolina, used to say to his students, "Don't be afraid of a little dirt, young gentlemen. What is dirt? Why nothing at all offensive, when chemically viewed. Rub a little alkali upon that 'dirty grease spot' on your coat, and it undergoes a chemical change and becomes soap. Now rub it with a little water and it disappears; it is neither grease, soap, water, nor dirt. 'That is not a very odorous pile of dirt,' you observe there. Well, scatter a little gypsum over it and it is no longer dirty. Everything you call dirt, is worthy your notice as students of chemistry. Analise it! Analise it! It will all separate into very clean elements.

"Dirt makes corn, corn makes bread and meat, and that makes a very sweet young lady that I saw one of you kissing last night. So, after all you were kissing dirt—particularly if she whitens her skin with chalk or fuller's earth. There is no telling, young gentlemen, what is dirt. Though I must say that rubbing such stuff upon the beautiful skin of a young lady is a dirty practice. 'Pearl powder,' I think is made of bismuth—nothing but dirt."

TOASTED OYSTERS.

THIS is a very common dish in lower Virginia, and is the best way in which this delicious shell-fish is cooked. It can only be done, however, in that region, or in the proper cooking utensils, procured from some of the vast shell-marl deposites of the South-Atlantic states. These are antedeluvian scollop shells, about as large as a full-sized coffee saucer, into which the oysters are opened and laid around singly, without any of the liquor; and then the shells are set upon embers, where the heat of the fire will also strike the upper surface, and cooked slowly until done. They are then brought hot to the table, setting each shell upon a plate, and are eaten direct from the shell, after seasoning with butter, pepper, &c., to suit the taste. No seasoning should be added while cooking. They are truly delicious, having all the flavor of roasted oysters—only, a little *more so*. Any of the York-River oyster boats could procure any quantity of the right kind of shells, to supply the New-York Market. The shells will last a long time, if taken care of. No earthen nor metal vessel will answer the purpose, for this would make quite a difference in the flavor.

COUVE TRONCUDA.—This is a species of mammoth cabbage, which grows in Portugal to a height of four or five feet. The seeds are sown and treated exactly like those of the common cabbage. The most valuable parts of the plant are the heart and tender flower buds, which, when boiled tender, and served up with pepper, salt, a little garlic, olive oil, and vinegar, form a most delicious dish with the Portuguese. The white ribs, also, when cooked, somewhat resemble seakale. The outer leaves and chopped stalks make excellent food for milch cows.

PORTUGUESE METHOD OF BLEACHING LINEN.

IN Lisbon, Oporto, and other large towns in Portugal, the inhabitants wash or bleach their clothes in the following manner:—Into tubs of a convenient size, they first place a layer of clothes, over which they sprinkle a thin layer of hen or pigeon manure, mixed with wood ashes in the proportion of one peck of the manure to two pecks of the ashes; then another layer of clothes, and again another layer of ashes and manure, and so on, till the tub is full. Then they pour over the clothes boiling-hot water until the tub is filled, and let them soak for 24 hours, after which they are taken out, rinsed in cold water, boiled and washed with soap and water the usual way.

Next they are dried, and afterwards spread out on the grass for one or two bright sunny days, occasionally sprinkled with clean water. In this manner, the most dingy clothes will become of a beautiful pure white.

EMBROCATION FOR WOUNDS.—Take of

Spirits of ammonia,	1 oz.
Spirit of wine,	1 oz.
Tincture of Belzoni,	1 oz.
Tincture of organum,	1 oz.

mix well, and apply with a feather to wounds, bruises, or sprains.

NEW GREEN-HOUSE PLANT.—Few recent acquisitions to the greenhouse, are of more merit than the Asiatic torrennia (*Torrenia asiatica*). Its exquisitely-shaded flower is small, and of a delicate light-blue, shaded towards the top with a rich, purplish-blue.

Foreign Agricultural News.

We are in receipt of our foreign journals per steamer Canada to 24th of February.

Markets.—*Ashes* falling. *Cotton*, a decline of ⅛*d.* per lb. *Grain* of all kinds a slight reduction. *Provisions*, the prices the same as per our last with brisk sales. *Tobacco*, firm. *Wool*, an advance of 2*d.* per lb., equal to 4 cts. of our money.

Small Pox in Sheep.—A renewed outbreak of small pox among the sheep of Norfolk is announced in the English papers.

Important to Stock Breeders.—Farmers are strongly recommended to wash all roots before giving them to cattle. Professor Dick states that he has seen 100 lbs. of earth taken out of a horse which had been destroyed by it.

Amount of Ruta-Baga Turnips Consumed by Stock per Day.—An ox weighing 40 stone, (560 lbs,) will eat about 100 lbs. of ruta-baga or Swedish turnips a-day along with straw or chaff. Ten sheep of 64 lbs. each, will eat about 200 lbs. in the field, and rather less in the house.—*Agricultural Gazette.*

Fixation of Ammonia.—100 gallons of undiluted urine will give off so much ammonia as to require 86½ lbs. of gypsum, 139 lbs. of green vitriol, or 123 lbs. of Epsom salts to furnish sulphuric acid to "fix" it. The Epsom salts are the best to use—the iron salt the worst.—*Ibid.*

Pruning Resinous Trees.—The worst time to prune these is in the spring when they are beginning to grow, the safest in autumn or winter.—*Ibid.*

To Decompose Dead Animals for Manure.—The most rapid way to effect decomposition of dead carcases is to mix them with something already decomposing. Chop the flesh up, and lay it in alternate beds with hot stable manure, and cover over with vegetable mould, burnt earth, or charred stuff of any kind. Any of these will detain the effluvia.—*Ibid.*

Discovery of a Yellow Camellia.—Mr. Fortune, the English traveller and botanical collector, has lately unexpectedly discovered a real yellow camellia. It proves to be one of the anemone-flowered race, the exterior petals being French white, and the central ones of a rich primrose yellow. He found it in blossom in a nursery garden in one of the towns in the north of China, which he had visited in search after tea plants.

Strength of Gutta-Percha Tubing.—A trial of the strength of gutta-percha tubing took place a few days ago at Stirling, in the presence of a committee of the town council, with a view to its applicability for extinguishing fires, flushing drains, &c. The tubing, which was one-and-a-half inch bore, was attached to the water pipes; and, although the pressure of the water is perhaps the greatest in the kingdom, (being about 450 feet,) not the slightest effect could be perceived upon either the tubing or the joints, whilst the same pressure upon strong leather hose scattered the rivets in all directions.—*Bell's Weekly Messenger.*

Important Discovery.—Mr. Smith, of Deanston, has made an important discovery in the treatment of the fleeces of sheep, whereby the fleece of the living animal is rendered repellant of water by a simple and cheap process; so that the sheep are defended from the pernicious effects of wet, whilst the natural emanations from the body remain unchecked, and the growth and quality of the wool are improved. The effect of this waterproofing has been practically tested on some of the most exposed sheep walks in Scotland, and with signal success. This process, it is expected, will effectually supersede the laying with tar and butter, and other salves, at one third of the cost, whilst the wool will be preserved white and pure. Though the laying or salving of sheep hitherto has been applied chiefly to flocks on mountainous and exposed situations only, it is believed that the new mode of treatment will be found beneficial to flocks on the most sheltered and southern pastures; and that it will go far to prevent or mitigate that destructive disease, the rot, which is neither more nor less than dysentery, caused by the continuance of wet weather, whereby the fleeces of the sheep become soaked with rain, and produce the same effect as is produced on man by wet clothing. It is also presumed that this mode of treatment will lead to the successful introduction of the Spanish sheep, and the alpaca, which are known to have suffered from the prevalence of wet weather in this country. Mr. Smith has secured patents for the United Kingdom and the colonies.—*Scottish Paper.*

To have Fresh-laid Eggs all Winter.—In February or March, set a broody hen, with a sitting of game eggs. The black-breasted reds I prefer. The pullets, if liberally fed, will begin to lay in September, and will continue laying through the winter. I have several hens which have been in an egg and have laid an egg in 20 weeks. If one of them should go broody after laying a nest of eggs, put it in a coop two or three days, and reduce its food considerably. The hatching fever will then go off, when it may be released, and in about three weeks, it will begin to lay again. I have practised this plan several years with invariable success. The fowls must be warmly housed and well fed.—*Agricultural Gazette.*

White Zinc Paint.—The Society for the Encouragement of National Industry, in Paris, has granted a medal of gold worth 3,000 f. to M. Leclaire for his substitution of white of zinc for white of lead. It appears that, from 1838 to 1847, no less than 3,142 persons entered the Paris Hospital, attacked by disease, originating in the use of lead. Of these, 1,898 persons worked at white lead or at minium; there were also 712 painters, 63 grinders of colors, and 10 preparers of visiting cards with porcelain surface. Since 1846, no person has been attacked in M. Leclaire's establishment.—*The Builder.*

The Use of Ammonia in Green Houses.—I occasionally used the carbonate of ammonia last season with benefit by applying a small lump of it, moistened, in the way you direct, to the hot pipes; or sometimes I dissolved a small quantity in water, and with it, from a fine rose or the engine, sprinkled the hot pipes and boiler, thereby filling the house with vapor holding the ammonia in solution, which, when condensation took place, conveyed it to the plants somewhat after Nature's own way. While on this subject, I may observe, that of late, ammoniacal gas has been used as "more effective, easier of application than tobacco or other established remedies" for the destruction of the insects that infest plants, and some of your readers may be inclined to try it.—*Gardeners' Chronicle.*

Choice of Perennial Flower Seeds.—In the way of biennials or perennials for partial protection, or entire exposure in the flower garden, we may particularly instance the following, which may be raised from seeds:—First and foremost we place the Humea elegans, which requires growing one year as a frame plant, to prepare it for planting the next year; it is by far the most graceful and ornamental half-hardy plant which finds a place in the flower garden. Stachys, pentstemons, and antirrhinums are pretty and useful plants, which require very little protection; and among those which do not need any protection, the most striking are alstrœmerias, the hollyhock, perennial larkspurs, (Delphinium,) monkshood, (Aconitum,) and several species of dianthus, campanula, and papaver.—*Ibid.*

Editors' Table.

A Word to Correspondents.—If you have any commiseration for an editor's eyes, and wish your articles printed correctly, please to observe the following rules:—

1st. Furnish yourselves with good pen, ink, and paper, and then write in an open round hand. Take particular pains with proper names, technical, scientific, and foreign words. These ought to be written as plain as print; for their meaning cannot be guessed from the sense of the context, like words in the body of a sentence.

2d. Only write on one side of the paper; and choose such as is firm, but so thin that three or four sheets with wafer and envelope, will not weigh quite a half ounce. Then they are charged single postage only.

3d. As to the subject, report some particular experiment or improved method of cultivation, the properties of fertilising matter, and the best method of applying it to crops, the diseases and remedies of domestic animals, new implements and improvements in them.

4th. Avoid writing on agricultural subjects in a general point of view, as this is too much like the thousand-and-one set speeches annually delivered before the agricultural societies; besides it smacks of sermonising; and however good the matter, the manner is generally distasteful to readers; and if we publish such articles, they are sure to be skipped by the great mass as a regular *bore*.

5th. Leave all pointing except periods, to be made by the printer, as he understands doing this better than most writers. He will also correct all faults of orthography and grammar, and when necessary, mend and correct the phraseology. So write away now without fear; if rejected, it can do no harm, if printed, it may do much good.

Mr. Solon Robinson was in the valley of the Rappahannock the last we heard of him. From there, he was going to the Eastern Shore of Virginia, and then to Delaware and New Jersey, in which states he will spend the principal part of April.

Mr. A. Sherman did not go south as was anticipated in our last. His tour, during April, will be in the country, within a circle of about fifty miles around the city of New York. It will be recollected that both of these gentlemen are our travelling agents.

Agriculture in Indiana.—According to an estimate made by Mr. Merrill, late President of the State Bank of Indiana, the agricultural products of the state during last year were 45,000,000 bushels corn; 8,000,000 bushels wheat; 18,000,000 oats, rye, barley, &c.

The Quadrupeds of North America, by John J. Audubon, F. R. S., &c., &c., and Rev. John Bachman, D. D. &c. &c. V. G. Audubon, 34 Liberty st., New York. Number iii., contains five spirited life-like engravings, with a strictly scientific and popular description of the animals delineated. We trust the reading farmers of the United States are not doing themselves and their children the injustice of witholding this valuable work from their libraries.

American Live-Stock Insurance Company.—This is the title of an association, recently incorporated in Indiana, with a capital stock of $50,000. Its object is to effect insurance on live stock, as horses, cattle, sheep, &c., from death by accident or disease. This is a novelty in this country, though common in England and other European countries. We have no time just now, to investigate the subject, but will speak of it again in a short time. John G. Bowman is President of the company, and B. S. Whitney, Secretary—Vincennes, Indiana.—*Ohio Cultivator.*

The Value of Oil in Indian Corn.—According to Professor Johnston, the popping properties of corn depend upon the expansion of the oil, on the application of heat. A barrel of pop corn would give six barrels of popped corn; while the rice corn, which contains a still larger proportion of oil, would give thirty-six barrels of popped corn from one unpopped; while there are some kinds, which, from the absence of oil, would not pop at all. The structure of grains is a most important study. It is particularly important in its bearing upon the feeding of stock. The same explanation he applied also to wheat, which he said contains a smaller proportion of oil than corn.

Curious Fact.—The house and barn of Mr. Abijah Chamberlain, near Hightstown, N. J., stands on a dividing ridge. The rain which falls on the west roof runs off into a rivulet, which, after coursing 30 miles, empties into the Raritan; while that which falls on the east roof, after a winding course of 13 miles, finds its way to the Delaware.

Selection of Seed Corn.—The following extract from a letter received from one of the best farmers in Massachusetts shows with what care, intelligent people select their seed corn, and what are the results and inducements for the practice:—

"I have plenty of corn in crib—good yellow flint, which does well on our light sandy land, but we never like to trust to our cribs for seed corn, as it may not come up well, from the sweating it gets more or less, by being put up in a large body. I should not like to use it, and could not recommend it to others. I suppose my practice, is that generally pursued by farmers in this vicinity. We select at harvest time, and dry with care, as much corn as we think will be required for seed the next year, never using corn from the crib for seed, except with reluctance and in case of emergency. I experienced a loss of some two hundred dollars in one season, from using sweated seed corn, purchased from the crib, and recommended safe by a good farmer who should have known better."

Profits of Poultry Raising.—At the Poultry Convention recently held in Boston, Col. Minot Thayer, of Braintree, said he had been much engaged in fowl raising for fifty years. His farm consisted of about 200 acres, and was acknowledged to be a good one; yet with an outlay of $25, in connection with its fowl department, he had derived more profit than from all the rest of his farm. It was his opinion that good policy required the keeping of but few fowls; he usually had not more than 100; with two acres of land and a running brook, that number would be very productive. His practice was to have two or three houses in which to shelter them in winter; these houses were made of stone on three sides. It was necessary, he said, to give the hens meat or fish in the winter, when they would lay eggs as freely as in the summer.

Mr. Giles, of Providence, said he agreed with Col. T., that a few fowls would be more profitable than a large number, unless proportionably great pains were taken in their management—200 or 300 might be kept on two or three acres of land. He believed that the raising of fowls, in connection with a tract of four or six acres of land, having a stream of water running through it, might be made to yield more profit than any farm in Massachusetts or Rhode Island, of 200 acres. His practice was to keep them warm, and not allow them to go out in the coldest days in winter. Their houses should be cleaned as often as once a week, and a little slacked lime strewed in them. In summer they should roost out upon the trees. If the raising of eggs is the object with the farmer, he was of the opinion that the Dorking and the white Shanghae are the most profitable fowls.

Review of the Market.

PRICES CURRENT IN NEW YORK, MARCH 13, 1850.

ASHES, Pot,	℔	100 lbs.	$6.50	@	$6.56
Pearl,	"	do.	5.87	"	5.94
BALE ROPE,	"	lb.	09	"	11
BARK, Quercitron,	"	ton.	39.00	"	40.00
BEANS, White,	"	bushel.	75	"	1.25
BEESWAX, American, Yellow,	"	lb.	19	"	23
BOLT ROPE,	"	"	10	"	11
BONES, Ground,	"	bushel.	40	"	55
BRISTLES, American,	"	lb.	25	"	65
BUTTER, Table,	"	"	15	"	25
Shipping,	"	"	09	"	15
CANDLES, Mould, Tallow,	"	"	10	"	13
Sperm,	"	"	25	"	47
Stearine,	"	"	25	"	30
CHEESE,	"	"	05	"	10
COAL, Anthracite,	2,000	lbs.	5.00	"	6.00
CORDAGE, American,	"	lb.	11	"	13
COTTON,	"	"	10	"	15
COTTON BAGGING, Am. hemp,	"	yard.	15	"	16
FEATHERS,	"	lb.	30	"	40
FLAX, American,	"	"	08	"	09
FLOUR, Ordinary,	"	bbl.	4.00	"	5.25
Fancy,	"	"	5.50	"	6.50
Richmond City Mills,	"	"	6.50	"	6.75
Buckwheat,	"	"	—	"	—
Rye,	"	"	2.75	"	3.00
GRAIN—Wheat, Western,	"	bushel.	95	"	1.30
" Red and Mixed,	"	"	80	"	1.15
Rye,	"	"	58	"	60
Corn, Northern,	"	"	58	"	63
" Southern,	"	"	55	"	61
Barley,	"	"	65	"	70
Oats,	"	"	38	"	45
GUANO, Peruvian,	2,000	lbs.	45.00	"	50.00
Patagonian,	"	do.	34.00	"	35.00
HAY, in Bales,	"	100 lbs.	56	"	63
HEMP, Russia, Clean,	"	ton.	210.00	"	215.00
American, Water-rotted,	"	"	160.00	"	200.00
" Dew-rotted,	"	"	140.00	"	175.00
HIDES, Dry Southern,	"	"	08½	"	09½
HOPS,	"	lb.	06	"	18
HORNS,	"	100.	2.00	"	10.00
LEAD, Pig,	"	100 lbs.	5.12	"	5.25
Pipes for Pumps, &c.,	"	lb.	05	"	07
MEAL, Corn,	"	bbl.	2.75	"	3.00
Corn,	"	hhd.	14.00	"	14.12
MOLASSES, New-Orleans,	"	gallon.	24	"	28
MUSTARD, American,	"	lb.	16	"	31
NAVAL STORES—Tar,	"	bbl.	1.62	"	1.88
Pitch,	"	"	1.25	"	1.75
Rosin,	"	"	1.00	"	1.20
Turpentine,	"	"	2.44	"	2.75
Spirits of Turpentine,	"	gallon.	32	"	34
OIL, Linseed, American,	"	"	90	"	93
Castor,	"	"	2.00	"	2.25
Lard,	"	"	60	"	70
OIL CAKE,	"	100 lbs.	1.25	"	1.50
PEAS, Field,	"	bushel.	75	"	1.25
Black-Eyed,	"	2 "	1.75	"	2.00
PLASTER OF PARIS,	"	ton.	2.00	"	2.75
Ground, in barrels of	300	lbs.	1.12	"	1.25
PROVISIONS—Beef, Mess,	℔	bbl.	8.50	"	11.00
" Prime,	"	"	5.75	"	8.00
" Smoked,	"	lb.	06	"	12
" Rounds, in Pickle	"		04	"	06
Pork, Mess,	℔	bbl.	10.00	"	12.00
" Prime,	"	"	6.50	"	10.00
Lard,	"	lb.	06	"	07
Bacon Sides, Smoked,	"	"	03	"	04½
" in Pickle,	"	"	03	"	04
Hams, Smoked,	"	"	05	"	09
" Pickled,	"	"	04	"	07
Shoulders, Smoked,	"	"	04	"	06
" Pickled,	"	"	03	"	05
RICE,	"	100 lbs.	2.25	"	3.62
SALT,	"	sack.	95	"	2.00
" Common,	"	bushel.	20	"	35
SEEDS—Clover,	"	lb.	06	"	09
Timothy,	"	bushel.	2.75	"	3.50
Flax, Clean,	"	"	1.75	"	1.80
" Rough,	"	"	1.70	"	1.75
SODA, Ash, (80 per cent. soda,)	"	lb.	03	"	—
Sulphate Soda, Ground,	"	"	01	"	—
SUGAR, New-Orleans,	"	"	04	"	06
SUMACH, American,	"	ton.	35.00	"	37.00
TALLOW,	"	lb.	07	"	08
TOBACCO,	"	"	03	"	10
WHISKEY, American,	"	gallon.	23	"	25
WOOLS, Saxony,	"	lb.	40	"	60
Merino,	"	"	35	"	40
Grade Merino,	"	"	30	"	35
Common,	"	"	20	"	30

NEW-YORK CATTLE MARKET.

At Market.—1,100 Beeves, (600 southern, the remainder from this state and the east,) 75 Cows and Calves, and 3,000 Sheep and Lambs.

Beef Cattle.—An abundant supply, sales varying from $6 to $8 per hundred. Demand fair but dull at the close. About 100 left over.

Cows and Calves.—The principal part of sales of these were made from $20 to 38, according to quality. 20 left over.

Sheep and Lambs.—The prices of these continue firm. The sales varied from $2 to $5.50. About 100 left over unsold.

March 11.

REMARKS.—The past month has been a very dull one, and prices remain nearly as they were at our last.

The Weather still continues mild for the season. It is to be hoped severe frosts will not follow as they did last year, to the great injury of fruit and young crops, particularly at the south.

TO CORRESPONDENTS.—Communications have been received from A. Beatty, M. W. Philips, S., Jacob Taylor, F. J. L., Samuel B. Parsons, B. P. Johnson, A., E. A. Atherton, C. S., Amanda, Levi Bartlett, L. Durand, R. W., Charles Du Bois, R., Robert G. Ramsey, M. G. A., S. E. Todd, Benjamin Acton, J. T., M. H. Morris.

ACKNOWLEDGEMENTS.—Letter to Hon. John M. Clayton, Secretary of State, enclosing a paper, Geographical, Political, and Commercial, on the Independent Oriental Nations, by Aaron H. Palmer, Esq., Counsellor of the Supreme Court of the United States; Transactions of the Worcester, (Mass.,) Agricultural Society, for the year 1849; Horticultural Report of the Twenty-Second Annual Fair of the American Institute of New York; An Oration Delivered before the Two Societies of the South-Carolina College, in December, 1849, by James H. Hammond; also an Address Delivered by the same gentleman before the South-Carolina Institute at its First Annual Fair, in November, 1849; A Package of Seeds from the United States Patent Office.

FRUIT AND ORNAMENTAL TREES FOR SALE.—30,000 Peach Trees of the choicest kinds from $5 to $6 per hundred. Also, 30,000 Apple Trees of all the standard varieties, of extra size, from 7 to 10 feet high, at $12.50 per hundred, among which are a large quantity of the celebrated Monmouth Pippin, Baldwin, Esopus Spitzenberg, Newtown Pippin, Rhode-Island Greening, &c., &c. Catalogues, with prices annexed, may be obtained by applying by letter, to the proprietor,

ISAAC PULLEN, Highstown, N. J.

apr 2t*

AGENCY FOR THE PURCHASE of Articles of Household Economy; Philosophical, Chemical, and Astronomical Apparatus; Mathematical, Surgical, Optical, Nautical, Engineering, and Gauging Instruments; Watches, Time-Keepers, and Chronometers; Books, Stationery, Charts, and Maps; Utensils and Materials used in Printing; Sporting Implements and Materials; Equipage for the Traveller, Voyager, &c., &c.

The Undersigned announces to the public that he has made advantageous arrangements with respectable houses and manufacturers in this city, for the purchase of all the principal procurable articles employed in Domestic and Rural Economy, useful and ornamental, as well as for the advancement and perfection of the Arts and Sciences.

All orders for goods, &c., must be addressed, *post-paid*, and *invariably* accompanied with the money, or a draft at sight, or otherwise acceptable, on some responsible house in Boston, Philadelphia, Baltimore, Charleston, or New York.

The direction and mode of forwarding the articles must be written out in full, in a clear, legible hand, otherwise mistakes and delays will be liable to occur; and, whenever practicable, it is desirable that they may be accompanied by a sample, or drawing, or at least, a rude sketch made with the pen.

All articles will be carefully selected, packed, and shipped, or sent, agreeable to direction. Beyond this, they will be subject solely to the risk of the parties by whom they are ordered and conveyed.

Strangers, or others, visiting the city, who prefer to make their own purchases, will be directed, free of charge, to the best houses, manufacturers, or their agents, where they may examine the articles at their leisure, and select according to their own judgment and taste.

D. J. BROWNE,

At the Agricultural Warehouse of A. B. Allen & Co.,

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COSMOS; A Sketch of the Physical Description of the Universe. By Alexander von Humboldt. Translated from the German, by E. C. Otté. Just published and for sale in two volumes, 12mo., with a portrait of the author. Price $1.70.

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IMPROVED STOCK.—Durham, Herford, and Devon Cattle; Saxon, Merino, Cotswold, Leicester, and South-Down Sheep; Lincolnshire, Suffolk, and Chinese Pigs. All these superior breeds, can be had of the subscriber, of the best quality, and will be shipped to any port of the country

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SICK HORSES.—Is your horse in the habit of coughing when he leaves the stable in the morning? Is he less inclined than usual to pull alertly? Does he pant with such exertion? Save him from a brewing attack of heaves, by a package of "*Tattersalls Heave Powders.*"

Does he cough incessantly? Is he utterly incapable of performing half his usual labor? Does the poor wretch heave and pant for that breath which is perfectly indispensable to healthy organisation? Is he thus an object of pity and annoyance to his driver? In short, has he that dreadful scourge, the heaves? You can cure him most certainly, in nine cases out of ten, by the "*Tattersalls Heave Powders.*"

Have you subjected a valuable horse to unusual exertion, and are you obliged to put him up, covered with sweat, you can wholly preserve him from cold or founder, by a large dose of the powder mixed in his food.

If, after exposure to cold, or a hard drive the day before, you find your horse, in the morning, shivering, in a contracted posture, or with drooping head, you can save him and yourself much trouble, by treating him with "*Tattersalls Heave Powders.*"

Is your horse troubled with loss of appetite? Are the pores of his skin closed, and has he a rough, staring coat, indicating worms or general lack of condition, you can give him a good appetite, and animation, and fortify him against disease, by a package of "*Tattersalls Heave Powders.*"

This great remedy, used so generally in the celebrated Tattersalls Stables, in London, and by the English gentry, is the best and cheapest horse medicine in the world. Besides its specific action upon diseases of the windpipe, it is the best general medicine that can be used, and acts upon horses as sarsaparilla does on the human race, curing disease, without purging or debilitating, and is always safe.

An accompanying pamphlet contains invaluable information to the horseman—ample directions for using them in all complaints, and a host of wonderful certificates.

Do not tamper with your horses by unskillful treatment—and, above all, do not touch the miserable "heave cures," &c., containing calomel, antimony, and poisonous mineral ingredients, which have flooded the country since our valuable remedy has been so extensively sold, but buy nothing but "*Kirkbride's Tattersalls Heave Powders,*" and observe that each package contains the account of its purchase from J. Kirkbride, the English proprietor, and the written signature of "A. H. Gough & Co." Keep a package of this tried and warranted remedy always in your stable, and you will find it a cheap prevention.

Price $1 for large package—six for $5. Sold wholesale and retail by A. H. GOUGH & CO., 123 Fulton st., New York. Also, by druggists and merchants throughout the United States and the Canadas. Good agents wanted. mh

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TO FARMERS AND PLANTERS.—The New and Improved Poudrette of "The Lodi Manufacturing Co.," is offered for sale the present season at the following rates, viz:—1 barrel, $2, 3 barrels, $5, and at the rate of $1.50 per barrel, for any quantity over 6 barrels. Delivered free from charge for barrels, cartage, or other expenses, on board of vessels in the city of New York.

This article, made from night soil, into a light, dry, and inodorous *powder, is the cheapest and most powerful manure in the world for corn or tobacco. Two barrels,* ($3 *worth,*) *will manure an acre of corn in the hill,* and will bring a heavier crop than can be obtained in any other way.

A pamphlet containing instructions for use, certificates from some of the first agriculturists in the United States, and much valuable information will be sent *gratis,* to any one applying, (*post-paid* if by letter,) to "The Lodi Manufacturing Co., 66 Dey street, New York." Also for sale by A. B. Allen & Co., 191 Water street. apr 3t

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THE ENGLISH LANGUAGE.—The Rise, Progress, and Present Structure of the English Language. By the Rev. MATTHEW HARRISON, A. M. Price $1. For sale wholesale and retail, by

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THE NEW-ENGLAND HISTORICAL AND GENEALOGICAL REGISTER. Number 1, Volume IV. Price 50 cents, or $2 per annum. Just received by

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FRUIT TREES FOR SALE.—The subscriber offers this spring, at reduced prices, a general assortment of Fruit Trees Grapevines, Quince Bushes, &c. Among them are 20,000 Apple Trees at $12 per hundred, 10,000 choice Cherry Trees, $25 per hundred; 10,000 Isabella Grapevines, from one to four years old, at from $7 to $14 per hundred—3-year-old transplanted vines, $14 per hundred. The vines have all been annually cut back to the ground, and have fine roots for planting. Early Golden Apricot Trees from one to four years old, from $8 to $15 per hundred on Peach and 30cts. on Plumb. Frost Gage Plumb Trees from $20 to 30 per hundred. Also a few thousand Fir Trees from one to four feet high, at 8cts. per foot, 1,000 American Linden, very low. CHARLES DU BOIS.

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HOVEY'S FRUITS OF AMERICA;—Containing a selection of all the choicest varieties cultivated in the United States. Colored plates.

LYNCHBURG, VIRGINIA, LAND AGENT. The undersigned has on hand, for sale, lying in this section of Virginia, within from 2 to 150 miles of Lynchburg, fifty plantations, containing from 100 to 6,000 acres—price from $3 to $12. Mountain land, in tracts from 500 to 50,000 acres—price from 35 cents to $2—good locations for dairies, wool growing, and stock of all descriptions; healthy; grass grows well; good, never-failing, running water, well distributed. Messrs. Samuel Patterson, of Pennsylvania, and H. N. Dox, of New York, the former with 1,500, and the latter with 800 head of fine-wooled sheep, are succeeding to their entire satisfaction. Communications, post paid, will meet with prompt attention. BENJAMIN WILKES.

mh 2t*

DICKEY'S PATENT CORN DRILL.—The Subscriber takes this method of introducing to agriculturists generally, his Improved Corn Drill, upon which he has recently obtained letters patent. It is so constructed as to plant the corn in drills, each grain an equal distance apart, which plan is now almost universally admitted, by practical and experienced corn growers, to be the most certain and efficient means of raising a good crop.

The operation of the drill is such that it seldom, if ever, misses a grain. The corn, as it passes from the drill, being brought immediately under the eye of the operator, he is enabled at all times to see that the grains are regularly dropped in the row. It is capable of being regulated to drop the grains either 6, 7, 9, 12, or 14 inches apart, as may be desired.

Numerous certificates can be shown from persons who have used this drill for two or three years past, fully attesting its superiority over all others in use, and proving conclusively the great advantages of drilling corn over planting it in hills.

He purposes to keep on hand a supply of drills, and is prepared to sell county or state rights, on reasonable terms; or he will furnish full sets of castings, fitted up either with or without the screw bolts, on terms that will afford a reasonable profit to any person who may wish to make the woodwork, put up the drills, and sell them, &c.

N. B.—ALLEN GAWTHROP, of West Grove, Chester Co., Pa., is legally constituted an agent, to manufacture and sell the above drills, dispose of patent rights, &c.; and any orders sent to his or my address, will be promptly attended to.

The price is $20, delivered in Baltimore or Philadelphia.

mh 2t* E. J. DICKEY, Hopewell, Chester Co., Pa.

NEW-YORK

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FOREIGN SEEDS, of superior quality and late importation.

GRASS SEEDS.—Ray Grass, Lucern, and White Dutch Clover Seeds.

GARDEN SEEDS.—A large stock selected with care, expressly for the American Market.

AMERICAN FIELD SEEDS, of the best quality and latest growth.

GRASS SEEDS.—Timothy, Herd's Grass, (Red Top,) Blue Grass, and Red and White Clover.

OATS.—Imperial, Hopetown, and Black Oats.

SPRING WHEAT.—Italian and Black-Sea Spring Wheat.

EAGLE PLOWS.—Many plows having been sold under the name of the *Eagle Plow*, which are not genuine, this is to give notice that all plows sold in this city under that name, to ensure confidence, will have our name marked on the beam, and no others purchased here, can be relied on as genuine without this brand.

☞ Be *particular*, also, as to the *name*, *number*, and *street*, which should be "A. B. Allen & Co., 189 and 191 Water st., N. Y."

FRESH GARDEN SEEDS.—Pole and Bush Beans; Sugar and other kinds of Beet, Mangel Wurtzel and Scarcity; Borecole, or Kale; Brussels Sprouts; Brocoli; Colewort, or Collards; Cabbage; Kohl-Rabi; Cauliflower; Carrot; Chervil; Celery; Cress; Cucumbers; Egg Plant; Endive; Indian Corn; Leek; Lettuce; Melon; Mustard; Nasturtium; Pumpkin; Radish; Rhubarb; Spinach; Salsify; Sea Kale; Squash; Tomato; Turnip; Sweet Herbs; &c., &c.

The above seeds are grown expressly for us, and we have every reason to believe them genuine, and of the best and most improved kinds in market.

GUANO AND OTHER FERTILISERS, constantly on hand and for sale on reasonable terms.

GUANO—Peruvian and Patagonian, best quality.

BONE DUST—of superior quality, in barrels. Those in want will do well to secure it soon.

PLASTER.—Ground Plaster, in barrels.

POUDRETTE—at manufacturers' prices.

COMBINED MANURE.—This is a valuable artificial manure, containing a considerable per centage of phosphate of lime, ammonia, and nitrogen, capable of affording ammonia by slow decomposition in the soil. On application to crops, it is immediately felt, and its effects continue for three or four years. Price, put up in barrels, $1 per 100 lbs.

A. B. ALLEN & CO.,
189 and 191 Water street.

PLOWS.—A very large assortment of more than one hundred different patterns.

CORN AND OTHER SEED PLANTERS—of the latest and best patterns, suited to planting or sowing every description of seeds, to be drawn by horse or hand. These save the labor of six to ten persons, and will plant, drill, or sow more evenly than can be done by hand.

SAWING MACHINES, for cross cutting cord wood, or slitting Scantling, Plank, or Boards.

BRICK MACHINES of the best construction, will make 10,000 to 15,000 bricks per day by hand.

GRAIN MILLS.—Steel and Cast-Iron Mills at $6 to $25, and Burr-Stone at $75 to $250, for Horse or Steam Power.

CHURNS.—Rotary and Thermometer Churns, and Self-acting Cheese Presses.

GRIND STONES on Friction Rollers, requiring one person only to hold and turn.

REAPING MACHINES, of the most efficient and best construction.

PUMPS.—Suction and Forcing Pumps of all sizes with pipe, at lowest manufacturers' prices.

BIRD SEED.—Canary, Hemp, Millet, and Rape Seeds—both at wholesale and retail.

ALLEN'S IMPROVED PORTABLE RAILroad Horse Power, Thresher, and Separator.—The advantages of the above horse powers are—1. They occupy but little more space than a horse. 2. They can be moved by the weight of the horse only, by placing the machine at an angle of 10 or 15 degrees. 3. They are easily transported, simply constructed, not liable to get out of order, and move with little friction.

The Overshot Threshers consist of a small-spiked cylinder with a concave top, and possess these advantages. 1. They have a level table for feeding, thus enabling the tenders to stand erect, and control the motions of the horse and machine by means of a brake, by which accidents are avoided. 2. In consequence of the spikes lifting the straw and doing the work on the top, stones, blocks, &c., drop at the end of the table, and are not carried between the spikes. 3. The overshot cylinder does not scatter the grain but throws it within three feet of the machine. 4. This arrangement also admits of attaching a *separator* high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is long, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary threshers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by an increased number in the concave top, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men with a single power, can thresh 100 to 150 bushels of wheat or rye per day; and four men with a double power, twice that quantity. All the above are compact and can be carried where wanted, complete, or they may be readily taken apart and packed for distant transportation by wagon or otherwise.

Price of single Power,	$80
" " Thresher,	$28
" Separator and fixtures,	$7
" Bands for driving, etc.,	$5
" Wood-sawing machine, complete, and in running order,	$35
Price of Double Power,	$100
" with Thresher, Separator, &c.,	$145 to $150

All the above are sold singly or together, as desired, and are warranted to work well and give satisfacion.

A. B. ALLEN & CO., 189 and 191 Water st. N. Y.